

MICHIGAN FARMER

AND STATE JOURNAL OF AGRICULTURE.

The Only Agricultural and Live Stock Journal in the State.

VOL. XXXII.
No. 9.

DETROIT, SATURDAY, AUGUST 28, 1897.

PRICE, 5 CENTS.
\$1 per Year.

Farm Department.

Conducted by J. H. Brown, who lives on his farm at Climax, Mich., which is conducted as the Michigan Farmer Experiment Farm. All correspondence for this department should be sent to Climax.

THE EDITOR'S FARM NOTES.

TREATING SEED WHEAT FOR SMUT.

In reply to inquiries will state that there are two classes of smuts that attack our wheat, the most common of which is stinking smut.

If you are not familiar with smut, and have found none in your wheat, you are indeed fortunate. Many farms are thoroughly inoculated with both loose and stinking smut, and the owners seemingly take no special pains to eradicate it from either their seed or soil.

Stinking smut is found in many of the larger and irregular kernels, and, though one may not find it in the wheat heads, it is very noticeable after the wheat is threshed. If the so-called kernels are pinched between the thumb and finger a dark brown powder will be seen and having a disagreeable and penetrating odor.

It is an easy matter to treat seed wheat for the purpose of destroying the smut germs. The work is, however, dreaded, and not one farmer in a thousand that has read the directions, ever made a test.

The trouble is that it is supposed necessary to sow the treated seed broadcast, and farmers owning drills hate to go back to hand sowing. However, the treated seed may be dried, if pleasant weather prevails, so that the drill may be used as usual, provided the machine is set to sow a little thicker.

Probably the copper-sulphate treatment is the best to apply to wheat for stinking smut. The wheat should first be cleaned, then immersed for twelve hours in a solution of one pound of copper-sulphate in 24 gallons of water.

Use wooden vessels for holding the solution. A tub or half barrel is good. This for small lots of seed. The Department of Agriculture at Washington recommends taking the seed out of the copper-sulphate solution and immersing in lime-water for five or ten minutes. This is made by slaking one pound of good fresh lime in ten gallons of water.

Seed wheat is treated in this way much easier than by the Jensen, or hot have any water except that which has slower in germinating and growing afterwards.

The hot water treatment has been given during the present season and hardly needs fully repeating. In brief it is to soak the seed in hot water at a temperature of about 132 degrees F. for ten minutes.

The seed may be put into baskets or coarse sacks and dipped into a large kettle containing the hot water. It is important to keep the water constantly at the proper temperature.

A good plan is to first soak the seed in cold water, then skim off the

smutted kernels which float on top. Repeated plunging of the seed in hot water is advised.

Be sure to have an assistant, with a thermometer on hand, also plenty of boiling water and cold water right at hand to replenish the water in which the seed is being immersed, so as to maintain the temperature about 132 degrees.

There are various ways of drying the seed. On a hot pleasant day the seed may be spread two or three inches deep on a barn floor, or on a binder canvas cover. The seed may be treated months before seeding time, or just before sowing.

To effect good results, the grain sacks, drills, canvas or barn floor should be disinfected. This may be done by pouring on boiling water. The barn floor should first be washed with a solution of one pound of bluestone to ten gallons of water before spreading the seed thereon.

Would like to have you answer through your paper, whether wheat stubble, where the wheat was smutty this year, if sowed to wheat again this fall, would affect the next crop? Can you tell the cause of so much smut in wheat this year? Please answer as soon as convenient.

WILDER BANCROFT.
Jackson Co., Mich.

The surface soil is full of the smut germs, and the second crop would be apt to contain more smut, depending somewhat on climatic conditions.

One cause of so much smut is that the germs are not killed, but that many farmers have, in recent years, been sowing smutty wheat, year after year, sometimes on the same ground repeatedly. We reap what we sow, and sometimes a little more. If we all treated our seed, as directed by the experiment stations, the smut crop would quickly be reduced to nothing. We sometimes think it would be a good idea to secure the passage of a bill from our legislature compelling farmers to treat smutty seed, with a slight penalty attached for offering such smutty wheat for sale.

SOME WHEAT QUERIES.

Reading that you were going to sow Dawson's Golden Chaff wheat last fall, will you please report what success you have had with it, its characteristics, etc., in The Farmer at some convenient date before long?

WM. HENSON.
These continue to come in, and in reply will state that this wheat has been described in these columns. Our crop has not been threshed, but it was the best wheat we had on our corn ground. The kernels are large, white, plump and heavy. The wheat is a bald variety, and we prefer bald to bearded wheat every time.

PREPARING WHEAT GROUND.

We are now plowing the last of our ground. It has been dragged as fast as plowed, and we shall use the harrow and roller alternately until the seed bed is thoroughly fined and compacted.

To-day we are top dressing the knolls and poorest spots, using about six to eight loads per acre. Our fore-

man is an expert at spreading this manure from the wagon, and is doing the best job we have seen in some time—for hand spreading. Of course this cannot compare with work done by the Kemp manure spreader.

We are more and more convinced that the place to put manure, freshly made, is on sod ground, throughout the fall and winter, to be plowed under for corn the following spring. All manure that can be kept and made throughout the summer, with the cleaning out of the barnyard just before threshing, should be lightly and evenly spread on wheat ground, recently plowed, and thoroughly worked into the surface soil with harrow and cultivator.

August 19, 1897.

For the Michigan Farmer.

COMMERCIAL FERTILIZER ON WHEAT LAND.

In the Farmer of July 31 I noticed an article by S. Parsons entitled "Profit in Fertilizers," and as my efforts in that direction have not attained the high mark indicated by the aforesaid communication, I will give a little of my experience with commercial manure. This is not with the intention of proving friend Parsons an untruthful man, but for the benefit of those Farmer readers who might otherwise be tempted, by visions of eighty bushels per acre wheat, to invest their hard-earned savings in commercial fertilizers for the fall seeding.

In the fall of 1893, having a mild attack of the fertilizer fever, I purchased a barrel containing 250 pounds for experimental purposes.

The directions said that, to attain the best results, it should be sowed at the rate of 200 pounds per acre with the wheat, so I accordingly set the fertilizer attachment of my drill to sow 104 quarts, and the grain part to sow 48 quarts per acre.

I sowed the fertilizer in two strips of about three-fifths of an acre each, one about five rods from the south side, and the other about an equal distance from the north side of the field, and carefully marked both plats so that I could find them at any time without trouble. The eastern part of the south plat is clay and quite wet for about ten rods toward the west, while the remainder is a sandy loam, well drained. The north plat is a clay loam, also well drained.

I watched both plats carefully until snow came, and as far as I could see there was no difference between where fertilizer was used and where it was not. In the spring, however, things looked a little different. The eastern part of the south plat was a dark green and quite rank, while the unfertilized part was thin and brown.

This difference was quite apparent during the spring and summer, and at harvest time the unfertilized southeastern part of the field, to the extent of about an acre, was hardly worth cutting, while the fertilized part would yield about twenty bushels to the acre.

The remainder of the south plat and

the entire north plat were no better than the unfertilized land by its side. As near as I can judge, the fertilizer increased the yield on the eastern part of the south plat about three bushels. At 80 cents per bushel this would be \$2.40. Cost of fertilizer, \$3.75; \$3.75 less \$2.40, gives \$1.35 profit, preceded by a minus sign, for the fertilizer.

Now, because I was not successful in this experiment, I do not condemn commercial fertilizers as being utterly valueless. On the contrary, I believe that on certain kinds of land it can be profitably used, but before following friend Parsons' advice very largely, it would be much better to invest in a small quantity by way of experiment.

Oakland Co., Mich. C. K. PHILLIPS.
(The Farmer would be glad to secure reports from some of its readers who have carefully experimented with commercial fertilizers on wheat ground. Please give all conditions and results. —Ed.)

For the Michigan Farmer.

EXPERIENCE WITH NEW WHEATS.

As there is a general stampede for space in your columns to advertise seed wheats just now, a few words of experience may not be out of place. We have tried various kinds of wheat, and last season have had Dawson's Golden Chaff, Red Clawson and White Clawson growing side by side, and also in separate fields, and must say so far Dawson's Golden Chaff has been a failure compared with the other varieties. On the second year's tillage of rich muck, drained all around, it all killed out, and did not realize more than its seeding. In the same field, on a sandy soil, it did its best, but did not show up what had been expected. The plot had been hog pastured for ten years with the exception of a crop of peas the year previous, and was sown on the 8th of September, and went into winter as well as anything I ever saw. Off two acres I have twenty-four bushels, which we will not sow much of, only to test again.

Another field we manured part and sowed a commercial fertilizer on all where the manure was and where there was no manure, a portion of the field being left without fertilizer. The soil was about six inches of muck on clay sub-soil, well top-drained, as no water stood on the ground except in the bottom of the furrows. Where the manure was with fertilizer added at 100 pounds per acre the wheat was by far the best; but the Dawson was away behind on any portion, with the White Clawson far ahead both in straw and grain.

We have been using the White Chaffed Clawson for six years, and had other kinds every year on the farm, but for clay or muck soil there has not yet appeared anything to equal it in yield. I think farmers had better go slow in sowing new wheats. What may result successfully on some soils may be a failure on others; and from

experience and observation the Dawson Golden Chaff requires a hard bottom with an abundance of fertilizers or manures. On soft or flat lands it will be a complete failure. I think it will do for a pet but not for a soldier.
Huron Co., Mich. R. A. BROWN.

For The Michigan Farmer.

CROCKED AND DRILLED WELLS.

Mr. Hartsuff asks information re-water treatment, though the seed is water can be had at 15 or 20 feet, and he does not favor stoned-up wells. We are in sympathy with Mr. Hartsuff, as we have had an experience in wells to our satisfaction.

Where a well is dug large enough to stone up it may form a sort of reservoir to hold a body of water sufficient for an emergency, providing there is not an adequate source from the vein furnishing the supply. But in our own experience, with a source like Mr. Hartsuff's, we drilled a four-inch hole 28 feet deep.

The fountain being at 22 feet leaves a space below sufficient to allow sediment of sand or clay to drop into rather than have them rise in the pump, as do a driven well, and for that reason I very much prefer the drilled well.

And before I forget I would say that a drilled well pump requires as good a strainer below as does a driven well pump.

Our well is piped up with a four-inch iron pipe down 20 feet and we could pump all day with a horse or wind-power without diminishing the supply. We hired our well made. Pump and well cost \$25.

Two men struck water and finished their contract at 11 o'clock a. m. The pump and piping cost \$9 (not extra).

This well is perfectly bug and even fly tight, as the base of the pump rests on the top of the piping, which is about a foot above the surface of the ground. We have banked up so not the least bit of surface water can pollute the pure water coming from the fountain below.

I would advise, where one can't get professionals to produce such drilled wells, to buy a one and one-half inch gas pipe and a three-foot drill; also a corkscrew. The two pieces will cost about five dollars and the gas pipes and unions (two pieces of ten feet each) about one dollar.

Select the spot and bore; don't dig a shovelful.

To make a handle for two men to work the drill or auger, procure a three by three-inch hardwood stick about three or four feet long. Saw a notch in one side of the stick in the center from end to end of sufficient size to hold half of the gas pipe. Apply a boxing of another such piece around the other side of pipe, but not coming close to the longer piece. Put two bolts through, one on either side of the gas pipe, and tighten the handle as desired, which in this way can be raised or lowered at will.

The drill part will not be of much use, unless there are rocks or stones in the way. The auger part is the piece necessary to raise the "borings."

If there is quicksand to go through it may be necessary to pipe up the well as bored. So it will be wise to have your auger and drill of sufficient size to work inside of the piping, if necessary. And do not buy or use anything but a brass cylinder on your pump, for the best is cheapest.

We have a well stoned up 20 feet, and drilled 80 feet more, full of good pure water (we had two experts, from Houghton last summer, analyze the waters) and another well at the other side of the house about the same dimensions, only the latter is curbed with wood.

But our family will not use either of those wells for cooking purposes. Nothing will satisfy the demand but pure fresh water from the field drilled well, either winter or summer. Our barrel must be replenished as needed, whether it rains or hails, snows or blows.

Health is too much valued to parley with cesspools where the germs, microbes or bacteria of diphtheria, cholera or fevers are awaiting their victims, and the best is none too good.

Why even consider a crocked well, though it is a medium of a stoned or drilled well? The stoned well will cost from one to two dollars per foot. The crocked well about the same, and a much better one, a drilled well, about half a dollar per foot.

A drilled well is as much ahead of either a stoned or crocked well, as

steam and electricity are ahead of ox and wind power.

Bro. Hartsuff, do not entertain for a moment going back to the old death traps of disease and filth, old fogylam reservoir wells, where all the rats, frogs, snakes and other vermin bathe in, and even die and rot in; where all the impurities of the barnyards, cesspools and surface drainage find their resting place in the old well.

Better get out in the fields for your well, and with a small gas pipe to conduct the water to the house, it will not cost much.

Huron Co., Mich. R. A. BROWN.
(Friend Brown gives some good advice regarding the necessity of securing pure water for stock use and domestic purposes. If some of the wells in use throughout the country could be "shown up" to our readers, and the water analyzed, a cry of horror would go up from thousands of throats.)

We see no reason for contamination of wells by means of cesspools on the farm, for such things should not exist. Dry earth closets would obviate all trouble from this source.

Nearly all the wells in this portion of the State, that have been recently made, are "driven" wells. Iron pipe, usually galvanized, is driven into the earth by a sort of pile driver, until water in abundance is reached. Such wells are very satisfactory.—Ed.)

FALL SEEDING OF CLOVER.

I note in a recent number of The Farmer an inquiry by Albert Curtis, of Chippewa Co., in regard to fall seeding of clover.

In this part of Luce Co. we have had one most successful "catch" by seeding to fall rye. He should sow this month. On my own land (muck), I can get a catch any time in spring, summer or fall.

Luce Co., Mich. H. L. HARRIS.
(We hope to hear oftener from our brother farmers in the Upper Peninsula, and want to secure several hundred new subscribers among the practical farmers "north of the Straits.") Can you not send us the names of some of your neighbors who do not take The Farmer, in order that we may send them sample copies?

Last September the editor was "stranded" at Newberry for one-half day on account of a railway collision. He traveled around town, asked many questions of the citizens, looked over some of the farm products, and decided there must be some good farming country and live, progressive farmers in the surrounding country.—Ed.)

ROOT GROWING IN FRANCE.

Agriculturists have had a hard fight with the weather this spring, which has created much disappointment in the carrying out of plans. Land that could not be sown with spring wheat has been cropped with potatoes and mangels. Now that the railways have made a reduction in rates of carriage, there is a class of farmers springing up who cultivate mangels expressly for city and suburban dairies. Just as in Venice, parsnips are largely raised instead of carrots for carriage horses. The mangel farmers have special arrangements to preserve the roots up to May, and sales commence to be brisk in February; they associate to hire 8 to 12 wagons, each of a capacity of five tons, and thus cheaply transport roots to Paris, close to the goods station, where dairymen come to order supplies. Of late the mangels arrive by canal barge, just as do apples, and the boat serves as the warehouse for the roots. The barges are drawn or hauled by mules or large donkeys, a pair of which have their stable on deck. There is also a cart on board; this arrangement enables the barge owner to deliver the mangels direct to the dairy sheds.

For the Michigan Farmer.

WHEAT SMUT.

The standard remedies for this disease, blue vitriol and hot water, have been published in the Michigan Farmer, and in the bulletins of the Michigan and other stations. These remedies, however, even when used with considerable care, seldom give absolutely clean seed.

The vitriol treatment is the safest, though it weakens the vitality of the seed more or less; while the hot water treatment unless very carefully performed is liable to injure it still more.

A very good plan, in order to get a few bushels of perfectly clean seed by either of these methods, is to sow some of the seed after treatment in a

series of small plots and thresh the product of each plot separately with a flail. If the treatment has been carefully made, the amount of smut in the crop is likely to be so small that some of the plots will be entirely free from it; the product of these can then be used for future seed.

But the best way is to secure absolutely clean seed to start with, even if it be but a small amount, and then endeavor to keep it clean. The chief agency for the distribution of smut is the threshing machine. This should be thoroughly cleaned by threshing oats, barley or some such crop before beginning on the wheat.

A. A. CROZIER.
Michigan Experiment Station, Aug. 14, 1897.
(We hope many of our readers will try the blue vitriol this fall and report next season in The Farmer.—Ed.)

For The Michigan Farmer.

CARE OF PUBLIC PROPERTY.

Why do people take such poor care of their road tools? Go anywhere and you will see the same condition of things. Road machines, wheel scrapers, plows, etc., left almost anywhere to rust and rot out just as described in The Farmer of July 3rd.

The trouble is people do not begin right, in my opinion. Townships and road districts wishing to purchase road machines should vote money enough at the annual township meetings to pay for the machines, and also money enough to build a good shed at the same time, and have all such sheds and tools under the control of the township board or the highway commissioners, who, in large townships, could appoint someone to look after each machine (preferably the overseer of highways for each district having one such machine), and make him responsible for the care of the same, just as he does of the roads in his district.

The commissioners could let jobs by contract to the lowest bidder for the building of sheds. They do not need to cost much and yet would answer the purpose admirably.

Our township board purchased a road machine and the first year put it in an empty barn; the second winter it stood out doors in the storms. The third winter ditto. Then that looked too much like throwing away money. Last year the board purchased two wheel scrapers and they stood out doors also.

This spring, as there was some unappropriated road money on hand, it was decided that a shed was needed more than anything else. So the township clerk was instructed to take sealed bids for the construction of a shed 30 feet long, 10 feet wide; 8-foot posts, boarded up and down, and with double board roof of first quality hemlock lumber. Doors on good strap hinges at each end of shed. Posts to be of cedar two and a half feet in the ground. This is large enough to shelter the machine and wheel scrapers.

The contract was let for \$29. It will take about 2,000 feet of lumber to build such a building. As the country is new and a good deal of chopping, grubbing and the like to do, one machine and two wheel scrapers, with a sliding scraper for each district, is all we need.

The farmers who do the work furnish plows, wagons, shovels and mattocks at reasonable rates for the balance of the work. The township board has nominal control of the tools, but has put them in care of a man who lives near where the shed is, and pays him for his services. No one but an overseer, or a person sent on his order, has a right to take the machine or scrapers, and if they fail to return it, a team is sent for it, and the highway commissioner takes enough money from that district to pay for the trouble of bringing it home.

This may seem like too much red tape, but there has got to be some rule with penalties of some kind to keep things where they belong.

Now as to a county road system. The city folks demand it, and the farmers kick, and I think they are right, but it cannot be denied that the present system is far from satisfactory. It seems to me that the highway commissioners of the several townships could constitute a board of county commissioners to meet once each year, look over work done in several places during the year, plan and discuss as to the most urgent needs for the future. They could decide on the amount necessary for the ensuing year, tax to be voted by the board of supervisors, and all money so raised to be used where tax is raised, except by consent of two-thirds of the board of commissioners.

The township commissioner, with

the supervisor and clerk to be ex-officio overseers of county roads in their respective districts. I believe by some such arrangement as this we could have a county system of roads, and at the same time every township have all the money paid in taxes in its territory for its own benefit. In my opinion, the present county system is simply highway robbery.

Emmet Co., Mich. WM. KILPATRICK.
(There is much sound sense in what friend Kilpatrick says about the county system. The shed business should be looked after by every farmer who is a legal voter, and he should be interested in keeping taxes down by putting up a good shed for all such tools. What do our readers say?—Ed.)

HOW WE SPREAD MANURE.

We do not keep a timothy meadow, and consequently do not have a field poverty-stricken with timothy, to rejuvenate with manure. The manure goes onto the clover the first summer after it is sown (the best time), or else the second fall and winter after sowing, to be plowed in for corn. We do not say, plowed under, because in turning the sod we do not turn it flat, but turn each furrow slice up against the preceding one. This season we top-dressed a ten-acre field farthest from the highway and barn buildings. This is the first complete coat of manure the field has ever had.

Last fall the field was sown to rye, this spring to clover. As soon as the rye was ripe we began to haul manure, and kept it up at intervals, till the field was gone over at the rate of 20 heavy two-horse loads per acre. The manure was hauled from our own lots and stables, and from town. It was scattered from the wagon, and not a first-class job, mainly because of the variable quality and condition of the manure.

The rye was a light crop, and was harvested by the hogs. Then came a rank growth of rag-weeds, which were cut just when coming into bloom. Following this, a rank growth of clover. All this time, probably till about the 1st of September, the manure hauling was continued. At times when we walked over the field, we noticed the manure was not as evenly distributed as desired.

To put a man in the field with a fork in the rank clover to complete the work, looked like an endless job.

This fall we have had the colts and brood sows on the field. They have trodden down the weeds, and consumed and trampled down the clover. Now, looking over the field, from a distance, the manure coating is quite noticeable by its dark color in contrast with the green sward of clover. The animals in tramping over the field have done much toward breaking up and fining the manure. But the work is not complete.

If the first few days of December gave us as good weather as we have had in November we shall put a light harrow on the field and finish spreading the manure. If not done then, it will be as soon in the spring as the weather will allow. Next summer we shall expect a sward of even growth, no tufts standing in prominence above others. The next year when in corn we expect an even growth over the field. If the harrowing is evenly done, the manure on this field will be well distributed, for the greater part of it is already well decayed.

This field will be grazed next summer. Were it not, and were it cut for hay, we would have no manure in the hay, because we do not use a spring-tooth, but a revolving or sweep rake. Two years ago, we top-dressed a rye and clover field this way. The hogs gathering the rye did much toward breaking up and fining the manure. After them the harrow and animals grazing the field completed the fining up and distributing the manure. When this field was plowed last winter there was no coarse manure on the surface, but all was in the best possible shape to feed the corn crop raised this year.

Ross Co., O. JOHN M. JAMISON.

HOW TO GET RID OF STUMPS.

I frequently see articles in The Farmer telling us how to get rid of stumps—at a cost of from 18 to 75 cents each. Some use oil, and others use dynamite, and still others grub them out. I have read an extensive experience, having cleared and "stumped" about 600 acres, and I feel that to relate some portion of it may do good to such are are troubled with large stumps in their fields.

In early times, and before we had

outlets, so that we could drain the black lands in Union county, it was the practice to leave some of the finest oaks for future use on such parts of the farm as were intended for meadow or pasture lands. In 1864 I came into possession of my father's farm. It had been cleared long enough so that the sugar, beech and other quick-rotting stumps had disappeared, but there were from five to ten large oak stumps still standing to each acre of land. Some of these stumps were old and dry, while others were still green. It so happened that I put out a deadening of eighty acres adjoining the part of the farm that had the most stumps on it. In feeding the corn and hay to sheep and cattle in the winter time, the sleds would pass and repass through this deadening, and so I had the men who did the feeding bring back a load of chunks or logs, such as they could load easily, and leave them about the large oak stumps in the meadows and feed lots.

I then took my ax and some fire and concluded to try to burn out some of the stumps. I would first cut a notch in a spur root, deep enough to hold a chunk of some size. In this notch I would lay a chunk and then start a fire, and so keep on until all the stumps in the field were on fire. I would then go over them several times a day until I would get a good deep coal started on each stump. After that larger chunks or logs can be used, and the fires need not be visited so often. I put but one log or chunk against a stump at a time, and started but one fire against each stump. I did not let the fire go entirely out, but kept on and did not get discouraged at the slowness of the fire, and in from one to two weeks the stumps began to disappear, and soon there was not one left to bother me in the future. As to the cost of getting rid of, say, a hundred oak stumps of an average of four feet in diameter, I would say that to me it was not perceptible. It was not full work for two men and teams to feed my sheep and cattle, so that they could draw chunks and I took delight in attending to the fires at leisure times. If pains are taken to direct the fire there will be no roots left to interfere with a mower, and if the plow strikes a root it will come out of the ground, for the reason that it has been detached from the stump by the action of the fire.

I have burned out stumps by the hundred, and have taken the pains to go some distance to see where about the same kind of stumps had been dynamited, and would rather burn out the stumps where they stand than have them scattered about with dynamite.

It will be noticed that the chunks and logs used to burn out the stumps are thus put out of the way in about as easy a manner as possible. Of course stumps will burn better in a dry time than in a wet one. But all told, the winter is the best time to burn them. There is then no danger of fire running wild and doing damage. Neither is there any material difference in burning a dry and a green stump. It may take some days longer to burn a green one, but the main trouble is in getting a good coal started on the side of the stump. By using but one log or chunk at a time, but little wood will be required to do the work, and those who adopt and carry out the plan outlined in this article will never run after dynamite or oil with which to burn or blow out stumps, so long as they have old logs or chunks of any kind to use. It seems strange to me that men will roll and burn the logs on these clearings in great heaps. Why not make slow fires against each stump and thus burn the stumps out as they burn the logs?—H. C. Hamilton, Union Co., O.

The Dairy.

We have a complete Dairy and Farm Creamery in constant operation on the Experiment Farm at Climax, Mich. This is personally conducted by J. H. Brown. All dairy correspondence should be sent to Climax, Mich.

For the Michigan Farmer.

"CLEANLINESS NEXT TO GODLINESS."

One of the little things connected with the proper care of dairy barns that is overlooked by a good many men is cleanliness. John Wesley's words in regard to cleanliness are almost divine, and there is no place

where one could better use them for a motto than in the cow stable.

Odors that are permitted to remain in a stable where cows are being milked, and where milk is left standing in open pails till the cows are all milked, cannot help but impart a taint to the milk that it is impossible to overcome.

Perhaps the greatest per cent of impure air that concentrates in the stable room comes from underneath the floor. Plank floors that are not put down tight enough to keep all sediment from running down through the cracks will in time let such a quantity of liquid manure pass through that it will become stagnant.

The fumes that arise from such places are not only injurious to the milk, but are unhealthy for stock to inhale. In the summer time this foul air can be let out of the room if one has the proper amount of ventilation. The trouble seems to lie in the fact that so many dairymen and farmers make the sad mistake when building of neglecting this important part.

In using a cement floor, all liquids have to be absorbed or arrangements made to carry it off. Our floor is built with a 20-inch gutter 6 inches deep. This carries all liquids to the outside of the building. We intended to build a cistern at the lower end of this trough, but never have, and probably never will. The reason for our change of mind is that we use plenty of bedding with our cattle, which absorbs nearly all the moisture.

But to return to our subject. We find that all milk containing an odor is not the result of impure air. When cows are shut in a yard over night it is not long till the yard is covered with dry fine manure. Cows being obliged to lie down on this get their udders covered with fine particles of dust that is easily brushed off. Usually it never gets brushed off till the milking is well under way and the greater portion collected in the milk pails.

Under such circumstances the housewife, if she is the one who has to care for the milk (as probably 90 per cent of all farmers' wives do), will find that for some reason she will be unable to make butter but what is off flavor. The storekeeper probably condemns her make of butter, when, in fact, she is to be pitied for having such a slovenly man for a husband.

Neither can milch cows drink from a mud hole where hogs and other stock are allowed to wallow and give milk that is free from impurity.

We keep in our stable a good sized woolen cloth for cleaning the udders before milking. The dust and fine particles of manure adhere to a woolen cloth better than to cotton. After the milking is done and the cows turned out we shake the dust out of the cloth, and it is clean and ready for the next time.

If we were to shake the dust out after cleaning each cow there would be a dust stirred up that would be nearly as bad in its effect as if we had been careless and not cleaned the udder in the first place.

It is safe to say that more poor butter is made poor before the milk reaches the house or dairy room than there is after it is brought in. Cows that are pastured in a field where there is a low piece of land or swamp connected with it, as is usually the case where one has land too low to crop, will in fly time wade out into the mud to keep off the flies. Such cows are hard to keep clean, and it is impossible to do so without washing them.

It does not require an overly large stock of brains to run a dairy, but it does require strict business principles worked out in genuine business form to make a success of it. Success depends not on keeping a good-sized dairy herd or on convenient arrangements and improvements for manufacturing the milk into butter. Of course these are part of it, but without a liking for the work and tact there is no such thing as success.

Hillsdale Co., Mich.

THE "GENERAL PURPOSE" COW.

For one who thoroughly believes in a special purpose cow, it seems almost incredible that others should cling to the idea of a general purpose one, or one that combines both beef and butter qualities. Perhaps, however, this may be accounted for in part from the fact that there is now and then an individual cow, perhaps one in a

thousand, that does possess these qualities, and so when one cow of some beef breed happens to be a large milker, and perhaps a rich butter cow, they jump at the conclusion that they may at least breed from such cows, and grow up a herd of both beef and butter animals. It is true that occasionally among the heavy, or draft breeds, we find a colt that develops into quite a speedy animal, but who would think of selecting such an animal for foundation stock from which he expected to eclipse the prize winners of the track? Why then should we expect in the bovine race to find combined these distinct characteristics? Very much has been said, and numberless remedies suggested for the betterment of the common dairyman, but all prove more or less ineffective so long as he attempts to carry on the business without the dairy cow.

The average yearly milk production from the cows in New York State is only about 3,000 pounds. Why? Simply because so many cow owners believe in and keep general purpose cows. On the other hand, there are herds that have been selected and bred for a purpose, whose yearly product is from 7,000 to 10,000 pounds. There is just one word that covers the whole ground of difference, and that word is individuality. Look over the great performers of any breed, and you will find a wonderful similarity of form and general outline.

But some one will say, if cows may be selected from general appearances, why go to the trouble and expense of breeding? Far be it from me to discourage or lay a straw in the way of the careful, painstaking breeder. He has earned and richly deserves his reward. It is true, however, that not one man in one hundred has the proper qualifications to become a successful breeder. Where then is there hope for the ninety and nine? I answer, in mastering this subject of cow individuality. Very few have the means to own thoroughbred herds, and indeed it is not necessary.

We will suppose two young men are about to embark on dairy farms. One of them has taken a course at his state agricultural college and has made the individuality of cows a special study. He has become convinced that he wants no general purpose animal, but one whose ancestors have been bred for a special purpose. When he enters a herd to buy, he knows what the cow he wants will look like, and with care and painstaking he selects one here and another there. When his herd is completed he selects a sire, not only of a strong, heavy type, but from a family of large performers.

The other young man does not believe in so much book farming, and selects his herd by crossing strong, hearty cows of good appearance. When the two herds are shown side by side, many a man would choose the latter herd because they look plump and smooth, and when one fails from any cause she will turn readily into beef.

We will suppose that young stock are raised from the same sire. How will matters stand at the end of two years? The first herd produces an average of six to seven thousand pounds of milk and makes 300 pounds of butter each; while the average of the other herd is not over 3,500 pounds of milk or 200 pounds of butter. One herd is as well fed as the other. Wherein is the difference? Simply that the first are special purpose cows. They and their ancestors have been bred for a special purpose, and the food they consume is not expended in placing fat upon their backs.

At the end of ten years both herds will have given place to younger animals. The first will have a herd superior to the old original one, while the improvement in the other will be slight, because stock has been raised from the handsomest, sleekest cows.

This is a faithful picture, as any one can verify in his own town if he chooses to look about him. The practical outcome at the end of ten years will be something like this: Income from herd No. 1, 300 pounds of butter per year for ten years, 60,000 pounds, at 20 cents, \$12,000. Income from second herd, 200 pounds of butter per year for ten years, 40,000 pounds, at 20 cents per pound, \$8,000. Increase in value of first herd, \$5 per cow, \$100. Increase in value of old cows from second herd turned to beef, \$5 per cow, or \$100.

The whole matter is summed up in

just this: Farmer No. 1, who starts out knowing what a dairy cow is, and gets her, has an income in the ten years of \$12,000 and his herd increased in value \$100. Farmer No. 2 does not know a dairy cow when he sees her, and in fact don't believe any such nonsense anyway, and has, at the end of ten years, taken in \$8,000, has a herd of no more value than when he began, and has \$100 for the privilege of keeping general purpose cows.

This is no fancy sketch, but a relation of fact as I understand it. If I am wrong I hope some general purpose cow man will set me right.

JOSIAH D. SMITH

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Dawson's Golden Chaff has stood first among 53 varieties grown at the Agricultural College at Guelph, Ont., for three years, and for two years at the State Agricultural College, Lansing, Mich. It stood first among 10 varieties grown at the Experimental Station. Price per single bushel \$1.25; for 5 bushels \$1.15 per bushel, and \$1 per bushel for 10 or more bushels included in one order. Bags 10 cts. Reference—H. M. Kellogg, Three Rivers, Mich.; Prof. A. M. Welch, Wm. Steele, Haddington Stock Farm, Ionia, Mich., all the banks and business houses of Ionia, Mich., and Reid & Carlton, Jackson, Mich. Samples sent upon application. DR. A. B. GRANT, "Fruit Park Farm," SANDSTONE, MICH.

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The Stock.

STOMACH WORMS IN SHEEP.

We look for a serious time with next season's lamb crop, owing to the frequent and heavy rains of this season, and would suggest great vigilance on earliest symptoms, and adopt remedial the part of flock owners to detect the measures at once. The following extract from a bulletin of the Iowa Experiment Station is worth preserving:

Of all the parasites of the sheep the stomach worm probably causes the greatest loss. It inhabits in immense numbers the fourth stomach of sheep and goats. It is an exceedingly small, thread-like worm, not over an inch in length, and scarcely visible in the contents of the stomach unless carefully looked for. So small is it that most owners of diseased flocks fail to discover the cause of the trouble until advised to examine carefully for the presence of worms, when they are able to detect myriads of these short, thread-like parasites, having a slightly twisted appearance, apparently making up the greater portion of the contents of the fourth stomach.

When the sheep has been killed for examination the movements of the worms may cause the contents of the organ to appear as a squirming mass. In color they are sometimes tinged with red and at other times of a dirty white, depending upon whether or not they are filled with blood from the mucous membrane of the stomach. They are supposed to receive nourishment from the liquids of the stomach and from the mucous membrane, to which they are often attached.

The life history of the parasite is quite simple, and such that the disease is readily communicated from infested to healthy sheep. The adult worms, to a greater or less extent, present in the stomach at all seasons of the year, produce eggs which are passed out with the droppings, and contaminating the herbage or water supply again enter the stomach and develop into the mature form. In certain seasons of the year they are found here in all stages of development. During spring and summer, the conditions being favorable, the eggs are taken into the stomach in great numbers. In our opinion the herbage is often the contaminated vehicle, for many parties who have suffered severe loss, state that the water supply came from deep wells and that the pastures were dry and high. Lambs are the principal sufferers; the older sheep being more vigorous, are usually able to withstand the effects of the parasite. Occasionally, however, the old, as well as the young, succumb.

This form of parasitism, like all others, is manifested at certain seasons. Sometimes as early as July, but usually not until August or September, will the worms have become sufficiently developed and so numerous as to interfere with the health of the animal. In most flocks the lambs do not begin to die before August or September.

The symptoms do not differ much from those observed in other forms of intestinal parasitism. Often the lambs begin to die before the owner becomes aware that anything serious is the matter. More often, however, it is noticed that the lambs have ceased to thrive as they should. They lose their appetite, droop or moan about, and become rapidly emaciated. Diarrhoea is often a prominent symptom. Death soon occurs.

Often before death a flabby swelling appears beneath the jaw. It may be stated here that this enlargement under the jaw is often mentioned by sheep owners in describing any particular disease, but it is a dropsical effusion caused by defective circulation of the blood, and always denotes debility and a bloodless condition (anemia).

A number of correspondents have referred to what they term "black scours." This is no doubt the diarrhoea of the stomach worm trouble, or of some other form of intestinal parasitism. In the trouble under consideration the weakest lambs are the first to die, and when a large per cent of the flock succumbs the disease extends over a considerable period of time. Those which do not die become badly emaciated and continue so unthrifty as to be of little value unless carefully treated. Consequently the entire loss cannot be gauged by the number of deaths.

It seems evident from the increased number of diseased flocks reported from year to year that this parasite is

rapidly becoming more widely disseminated among our flocks. This matter is easily explained, for many of those engaged in breeding fine sheep have lost heavily, and animals purchased from these flocks have served to contaminate others.

PREVENTIVE TREATMENT.

Fortunately the loss caused by the *Strongylus Contortus* can be almost entirely prevented. All that is necessary is for flockmasters to become familiar with the trouble and apply the proper remedies at the right time. Treatment is both preventive and curative. Prevention is, of course, the better remedy. In starting a flock it is advisable, if possible, to procure breeding animals from uninfected flocks. This precaution should always be taken in adding new animals to a herd. Serious infection may, to a great extent, be avoided by changing the pasture yearly and separating the lambs from the old sheep as early in the season as it can be done. Drinking from stagnant pools should not be allowed. Water from deep wells is always preferable.

The frequent change of pasture and separation of young from old is a very essential feature in the prevention of loss from any form of intestinal parasitism. Medical treatment should always be begun early before any symptoms of disease appear in the flock. This treatment may be instituted in July, and if not carried out before should be begun just as soon as any symptoms of trouble are seen. By giving the appropriate worm treatment early the loss may be entirely avoided; by beginning as soon as the lambs begin to die the loss can, to a considerable extent, be prevented. After becoming badly affected no medicine will in many cases prevent a fatal issue, and at this time our efforts must be directed toward sustaining the strength of the patient and improving the general conditions, as well as to destroying the worms.

In "Animal Parasites of Sheep," Dr. Cooper Curtice recommends an emulsion of oil of turpentine and milk—one part of the turpentine to sixteen of milk. The mixture is well shaken to emulsify the turpentine, and each animal given from one to four ounces of the mixture according to age. If one dose is not enough he advised that it be repeated in three or four days.

Dr. E. P. Niles, of the Virginia Experiment Station, reports good results with the following recipe: Take of powdered artemesia nut three drachms, powdered artemesia one and one-half drachms, sodium bicarbonate six drachms; mix and divide into three powders, giving one powder to each sheep ten or twelve hours apart; the size of the dose may be increased or decreased, according to size and age of the sheep to be treated; two or three doses are usually sufficient. Dr. Bitting, of the Indiana Experiment Station, has recommended the use of santolin in one to four grain doses once a day for a week.

The experience of the writer has been chiefly confined to the use of oil of turpentine, as recommended by Dr. Curtice. In a badly affected flock treated last summer under my personal direction the disease abated after two doses, three days apart, had been given. This treatment has been recommended to a number of flockmasters, several of whom have reported excellent results; some stated that no improvement followed. Drugs given only after the death of a number of animals in the flock cannot be said to have had a fair trial, and so far our observations have all been made on flocks of this kind. Even under these circumstances, however, the oil of turpentine caused an abatement of the disease in several of the flocks treated, and if given early would doubtless prevent in all cases a fatal issue. With santolin, picrate of potash and many other remedies we have had no experience.

In dealing with a flock where the stomach worm is suspected it is advisable to treat the entire flock in July and again one month later on if occasion demands. If effective as it promises to be the turpentine has the advantage of being cheap and easily administered. Two or three doses should be given at intervals of about three days.

FALL LITTERS.

Mr. James Riley, a noted breeder of Berkshire hogs, favors raising two litters yearly, and in a letter to the *Breeders' Gazette* gives his reasons for this belief, which are as follows:

"In answer to your inquirer in reference to breeding sows for fall litters I will say that it has been my experience that

it is best to breed them for fall litters. It is best to follow nature as closely as we can in the matter of breeding. When a sow suckles a litter of pigs and weans them at the proper time it is natural for her to come in heat. The system is then in the best possible condition to conceive another litter; but if we deprive her the service of a boar and continue to deprive her the generative organs soon begin to get weaker and the sow will usually get too fat, and finally she will not stand in pig at all. To keep a sow in proper breeding fix she should have two litters a year and if possible in March or April and September or October, and if she has eight or ten pigs the first litter so much the better. Let her suckle all of them, as it will develop all her milk organs and she will be a better suckler in the future.

"When a sow loses her pigs it is always better to breed her as soon as she comes in season. It is sometimes necessary to hold a sow over some time in order to get her started to have pigs in the spring and fall, but if I had a sow that was hard to get to stand in pig I would breed her as soon as she came in after weaning her pigs, even if it brought the litter in January."

Mr. Riley's advice may be all right for Indiana, but he will find as he comes north the question will assume new phases, for there is nothing more certain than that exposure to cold is certain death to young pigs. It is therefore safer to the average farmer and breeder in this State to make sure of one good litter each year, having the pigs come late enough to escape the danger of being chilled to death, than to try for two litters and run the risk of losing both. Of course natural conditions can be changed by giving the brood sows very warm pens, and keeping the young pigs in a sort of hot-house, but this will not give you vigorous pigs or keep the sows in good health.

MISSOURI LAW ABOUT SWINE DISEASES.

In the July Crop Report sent out by the Missouri State Board of Agriculture, Col. G. W. Waters has an article concerning the amended law as bearing upon the diseases of swine in that state. He says: The law relating to the disposition of the carcasses of animals that die of contagious diseases has been amended in some important particulars, and it would be well to call attention of the farmers to the law, and urge a strict enforcement of it, as upon that depends its value.

If the generally accepted idea that hog cholera is spread by germs of the disease is correct, then the law as just adopted will go far toward preventing its spread if properly enforced, but without a compliance with the law it would be of no value whatever. The law forbids the hauling of carcasses upon the highways and requires that they shall be cremated or buried on the premises where they die. It guards against burying them where the drainage water will carry the infection on to other premises. All these precautions are good, and if the premises where the disease exists are properly cleaned up and disinfected so as to prevent dogs, buzzards and other carrion eaters from spreading the disease, the dangers arising therefrom will be reduced to a minimum.

There is one practice, however, that still threatens danger that has not been provided against; it is that of shipping out hogs from infected herds to market. When a feeder has a lot of fat hogs, and one or more of them show signs of being affected, he is apt to hasten the well ones to the market. This, of course, necessitates driving them (or hauling) to the railway station. I have made diligent inquiry as to this feature and after careful consideration I think it would be a great hardship on the feeder and entail enormous expense upon the veterinary service to undertake to prevent the feeder from driving his well hogs to market simply because he had some sick ones at home. Before prohibition could be enforced or a penalty imposed it would have to be proven by competent inspection that his herd was infected with contagious disease. So, after due consideration, it was deemed best not to put any provisions of that kind in the bill.

Farmers will have to recognize the fact that there exists danger upon the highway, in the stock pens, in the freight cars, and will have to shun these places with their stock. David Rankin, of Atchison county, who feeds many thousands of hogs annually, told me that he would not receive as a gift a carload of stock hogs that had been shipped, no matter where from; he would not buy hogs and drive them over the main roads. In fact, the only way is for farmers to raise their own stock hogs or buy them from near-by breeders, or, if they have been brought

from a distance, quarantine them for thirty days before placing them with other hogs.

There is one feature of the new law that may not appear of much importance, yet in the light of past experience is of great value. I refer to the provision that "any one having sick hogs must notify his neighbors." I have known of several cases within the past year where feeders have lost heavily because they did not know their neighbors had the disease on their premises. In one case the pigs from one neighbor's lot visited the feed lots of another and caught it. In another case a man had a neighbor's hog borrowed, and when his own hogs got sick took the hog home, turned him in where he belonged, and in the course of a few days the borrowed hog got sick, infected the entire herd and seventy-five head died.

STOCK NOTES.

American cattle are prohibited from entering France upon the pretence of a fear of Texas fever and pleuro-pneumonia, while they know this country is entirely free from the latter malady, and that Texas cattle are excluded from our exported herds. Under this thin pretence they go on eating horse-meat; but it will not always be so. Now the French government is clamoring for "reciprocity." Let it begin by repealing its laws discriminating against American products.

The Stock Journal, Sydney, Australia, says: Day by day comes the cry "No rain." Sheep and cattle are dying in thousands; tales of ruin are already filling the air. There need be no mistake about the fact that we are in the midst of a fearful drouth, and the men who pull any stock through will be lucky, indeed. We have had drouths before, many of them, but already we seem to be nearing the record. The winter's frosts are on us in many places now; there will be no grass in the spring; even if the rain comes now, and the prospects are simply ghastly. One man has lost 9,000 sheep out of 10,000; another small man had 2,000 now has 400. On most of the runs there are from five to twenty men doing nothing else but skinning.

F. L. Capac, Mich., writes: "Will you give me a recipe for destroying lice on hogs? The lice are about the size of bed-bugs, and about the same shape." To get rid of lice you must not only destroy those on the hogs, but those in their pens. It has got to be a thorough process or your labor will be thrown away. A capital thing to use is just kerosene oil. It is always at hand, and is very effective. On a warm sunny day take some kerosene in a vessel, and start for your hog pens. Have a piece of flannel or woolen rag. Dip it in the kerosene, squeeze it out, and then rub the rag well over every part of the hog's body. Don't bear hard, so as to cause the oil to run out of the rag, as it is apt to take the hair off if that is done. But see that every part of the hog's body is reached. When all your hogs have been treated, turn them into a field, and then start on their pens. Kerosene will be found equally as effective here. Clear out the bedding, soak it with kerosene or burn it. Then go over the pen with a spray pump, using kerosene. See that every part of the pen is reached with the spray. About three days afterward go over the hogs again, as the nits will have hatched out by that time. If you do your work thoroughly the hogs will sleep quietly and put on flesh rapidly.

Assistant Secretary Howell, of the United States Treasury, has decided that hides of American cattle, slaughtered abroad, are dutiable on being returned to the United States at the rate of 15 per cent ad valorem, under section 437 of the new tariff law. It is held that such hides, by salting and drying, are materially changed and improved as an article of commerce, so that the article imported is different from that exported.

SILVER CREEK, MICH., Aug. 18, 1897.
GENTLEMEN—We cheerfully hand you check for amount of our advertising bill, and will say we are more than pleased with the investment.
Respectfully, O. J. BLISS & SON.

Schwabenfest Excursion to Grand Rapids Sunday, August 29.

Annual picnic of the German Societies of Grand Rapids and Western Michigan on above date in Schoenfelds Grove, Reeds Lake. Old country games, lots of fun, plenty to eat and drink, music by the band and singing society. Don't miss it. The D. G. R. & W. will run a special excursion train, leaving Detroit Union Depot at 7:00 a. m., and arriving at Grand Rapids at noon. Leave returning at 7:00 p. m. Round trip rate \$2.
GEO. DEHAVEN, G. P. A.

The Horse.

FOR SHYING HORSES.

A citizen of Hartford, Conn., has invented a device for making a shying horse quiet and tractable. It is a nose-piece that goes over the horse's upper lip, as shown in the illustration below. This strap does not necessarily draw on or even barely touch the lip of the animal unless the driver has a gentle pull on it; then it touches the end of the animal's nose or upper lip; and that mere touch, which should not be increased much does the whole business.

The contrivance consists of a simple head strap, properly braced and coming down between the horse's eyes and nostrils, to its end in the shape of a



sort of little metallic upper lip. This latter little piece of metal, only about two inches long, and not half an inch wide, is humorously called a "trolley bit." Its curving side-ends, like an ordinary bit, are so devised that a very slight, gentle pull on the reins brings the "trolley bit" against the tip of the horse's nose.

In complete absorption in the study of a new experience the horse may be driven right up by the side of a noisy locomotive, or of a gong-banging trolley car, that presents to the horse, under ordinary circumstances, the sinister aspect of a moving, perhaps a living thing, going without any visible means of propulsion; and in his strict attention to the new sensation at the tip of his nose he will take no notice of the car or of the locomotive. The queerest thing of all is the fact that no amount of use or familiarity with the nose-toucher arrangement seems to lessen the horse's interest in it.

HORSE GOSSIP.

Lansing is to have a two days' race meeting at the track of the Lansing Driving Club on September 2 and 3.

Ed Geers put six horses in the 2:15 list in July—The Abbot, The Monk, Passing Belle, Dare Devil, Valence and Elsinora. They are all four-year-olds but Valence.

The three-year-old stallion Cresceus made a new record for that age in a race last week at Syracuse, N. Y., when he trotted a mile in 2:17½ on a half mile track. The best time previously was 2:19¼.

The track at Grosse Pointe must be fast. Simon W. ran a mile in 1:41 flat, carrying 114 pounds, and Collateral a mile in 1:41½, carrying 108 pounds. These two races were hot contests and the time is the best ever made on this track.

Heir-at-Law, 2:07½, is not only the fastest stallion ever bred at Village Farm, but seems to have the making of the most successful. He is the sire of Passing Belle, 2:00½; Elsinora, 2:12½, and Judge-at-Law, 2:15½, all of which started out green this spring. He is by Mambrino King, dam by Alcantara, son of George Wilkes and Alma Mater, certainly fine breeding; but he is far from being a handsome horse, or one that would please a critic.

Pierre Lorillard says he expects to win the English Derby for the second time next year. He is said to have the best stable of two-year-olds now in England and has three eligibles for next year's Derby. But expectations are seldom realized.

A dispatch from Paris, France, says: The straw manufacturers of Luton have been doing a big business in sun-bonnets for horses, owing to the institution of the government and the Society for the Prevention of Cruelty to Animals. The hats are shaped on the Bordeaux model, having a high crown and a broad brim, like the straw bath-

ing hat used in the United States, with holes for the horse's ears. The use of the bonnets has greatly decreased the summer mortality among horses in France.

The following American horses have been named for the trotting championship of Europe, to be trotted at Baden, Vienna, meeting, and the Matadores handicap at the same place: Wilbur M. Azmon, Honeywood, Charming Chimes, Maud Wright, McVera, Vip-sania, E. L. Robinson, Katherine, Bravado, Corinne, Col. Kuser, Robbie P., Grace Hayes, Lord Caffrey, Marinet.

The two-year-old bay colt Intendant won a \$2,500 stake in a field of seventeen starters at the recent meeting in Berlin, Germany. He is by Dark Night, son of Alcione, out of Ivy Leaf, by Jay Bird, and is one of the first foals got by Dark Night after he was taken to Europe.

The Grand Circuit meeting at Glen Falls closed Friday night. It was unsatisfactory, principally owing to bad weather. Over 300 horses were in attendance, but the number starting the last two days were light, owing to the condition of the track. The 2:15 pace was won by Ambulator, a son of the Michigan sire, Ambassador. It required six heats to settle, and the fastest heat of the race was the last, when Ambulator's time was 2:10½. Passing Belle got the first heat in 2:13½, but finished third. Heir-at-Law won the 2:08 pace easily, there being nothing in the field able to push him. The time was 2:09, 2:08¼, 2:09. The Monk won his race, as did Dare Devil and Emily, so that the Hamblins, and Ed Geers, as usual, got the bulk of the money.

Colman's Rural World says: The trotting family is an immature breed yet, and no family or breed of improved live stock was ever known to touch the highest point of excellence during the formative stage, and the harness horse family will not do it. The running horse family had passed the distinct breed point more than a century when present champion running records were made, and within the nature of things it is not at all likely that any trotting turfman now living will be alive when the trotting and pacing records cease to go lower. Which is quite true. But it should be remembered that the trotter is an offshoot of the thoroughbred, and is a much better bred and highly developed animal than the thoroughbred was in his early history.

Veterinary Department.

CONDUCTED BY DR. W. C. FAIR.

Advice through this department is free to our subscribers. Each communication should state history and symptoms of the case fully, also name and address of the writer. The initials will only be given. When an answer is requested by mail it becomes private practice, and a fee of one dollar must accompany the letter.

Lice on Hogs.—My hogs have lice on them. What is the best means of getting rid of them? A. H. H., St. Louis, Mich.—Apply one part carbolic acid to thirty parts water until all the lice are killed. Kerosene and soapsuds will prove quite effectual, one part kerosene to four parts soapsuds.

Ringbone.—Four-year-old horse went lame about five months ago in left foreleg. I found a hard swelling on pastern that is growing. After being driven ten or fifteen minutes he grows less lame. How should he be treated? J. H., Coldwater.—Blister him with caustic balsam once every ten days. Give him rest if you can spare him.

Cow Leaks Milk.—One of my cows leaks her milk badly. Is there any cure? H. G. J., Dexter, Mich.—Dip teats in the following lotion: Three ounces of powdered alum to one gallon of water. Do so after milking three times a day. She should be milked not less than three times a day, or oftener if necessary, until teats contract sufficiently that milk will not run out of teats.

Partial Dislocation of Stifle Joint.—Three-year-old colt is very lame at times. Sometimes he is scarcely able to take a step. At times I imagine that he is paralyzed. After taking a few steps, dragging limb behind him, limb will snap and then he goes all right. Can he be cured? W. H., Midland, Mich.—Apply a blister to stifle. Keep his hind end six inches higher than his forelegs for two weeks. That can be very easily done by filling in rear

part of stall with clay. By keeping him up pretty well behind, stifle will not dislocate and he will get well. Do not attempt to work him until he gets entirely well.

Dropsical Swelling on Lower Part of Abdomen.—Eleven-year-old horse has a swelling on lower part of abdomen. He was troubled the same way one year ago. I gave him condition powders and tea made from buchu leaves. He got pretty well at that time, but he is now in very much the same condition that he then was. If you prescribe a remedy for him, let it be in the powder form, as I have no help to assist me in drenching him. C. B., Sparta, Mich.—Give one dram iodide of iron in feed twice a day. Turn him out to pasture at night and work him during the day. Also give him one ounce Glauber salts twice a day in feed. Apply tincture iodine to swelling once every two days.

Lymphangitis.—About two months ago hock joint of my four-year-old driving horse commenced to swell. The swelling went up his leg and into his sheath. In a few days he seemed somewhat better, but sheath continues to swell a little at times. Now he is growing worse again. Swelling is between hock and body. He is quite stiff and lame. When not in pasture, he stands on a ground floor. His appetite is good and he feels well in every way except when badly swollen. He has been properly cleaned with soap and water. What shall I do for him? C. L. T., Richmondville, Mich.—Your horse suffers from an inflammation of the lymphatic glands of thigh and sheath. Give him six drams barbaodes aloes, one dram calomel, one dram ground ginger, as a cathartic; one dose is all that is required. Also give him two drams nitrate of potash twice a day and one dram iodide of potash once a day. He should have regular exercise and his hind leg fomented with hot water three times a day.

Another Opportunity Given to See the Falls by the Michigan Central.

On Thursday, Sept. 2d, another \$3.50 round trip excursion will be given by the Michigan Central to Niagara Falls, tickets limited for return to five days, including date of sale. In connection with this excursion a low round trip rate will also be in effect to Alexandria Bay and the Thousand Islands of the St. Lawrence, which will cost \$5.50 additional, and limit of tickets will be three days longer than those to Niagara Falls.

German Picnic at Grand Rapids, Sunday, August 29.

Great times are in store for all who attend this annual picnic or Schwaabenfest. Special attractions will be provided and a delightful day is assured. The D. G. R. & W. will run a special train from Detroit Union Depot at 7:00 a. m., arriving at Grand Rapids at noon. Leave for home at 7:00 p. m. Round trip rate \$2.

GEO. DEHAVEN, G. P. A.

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Department of Veterinary Science Detroit College of Medicine.

Lectures Begin September 29th, 1897. A new building has been erected especially adapted and supplied with ample facilities to meet the wants of this Department. Dr. E. A. A. Grange, for many years State Veterinarian and Professor of Veterinary Science in the Agricultural College of Michigan, has been secured as a Principal and Professor in charge. This is a sufficient guarantee of thorough and effective work, and should give the best assurance of a large and successful development of the science of medicine as applied to dumb animals. Send for catalogue, which will give full information as to courses of study, terms, etc. H. O. WALKER, M. D., Secretary, Detroit, Mich.

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ANCHORWOOD FARM, Flint, Mich.—Registered English, Canadian and Michigan bred Oxford Down sheep. Prize winning registered Jerseys. Registered Holsteins. Pure bred black Langshan chickens. A few Oxford Down ram lambs for sale, from imported sire and dam. Wanted a few registered Holstein calves. Address ANCHORWOOD FARM, Lock Box 1602, Flint, Mich.

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WE can give you BARGAINS in POLAND-CHINA PIGS and B. P. R. in two and four year olds. Write for prices. WILLARD PERRY or Hastings, M. H. BURTON, Mich.

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Farmers' Clubs.

CONDUCTED BY A. C. BIRD.

All correspondence for this department should be addressed to A. C. Bird, Highland, Mich.

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—J. T. Daniels, Union Home.
Vice-President—Patrick Hankard, Henrietta.
Secretary-Treas.—F. D. Wells, Rochester.
Directors—G. L. Hoyt, Salline; L. H. Ives, Mason; W. H. Howlett, Daraville; C. J. Phelps, Damon; F. M. Whelan, North Newburg; A. L. London, Springport.
All communications relating to the organization of new Clubs should be addressed to F. D. Wells, Rochester, Mich.

THE SEPTEMBER ASSOCIATION QUESTION.

The topic selected by the committee for consideration at the September meetings of the local clubs, is one that has much to do with the future of the farmers' club movement in this State. As previously announced, the topic is: "The Organization of New Clubs. How Best Can Their Number Be Increased?"

At no season of the year would the discussion of this topic be more appropriate than now. Club work takes on renewed activity with the coming of the autumn months. New plans will now be formulated and new lines of work laid out. Nearly every club in the State has held a successful picnic gathering of some kind, at which many people not heretofore interested in club work have been made acquainted with its advantages. The foundation for many a new club has thus been laid if only the good work there begun is properly followed up.

In order that the vantage-ground thus gained be not again lost, the work of organization should begin at once. And nothing can give it greater assurance of success than to have an immediate interchange of ideas between the club workers of the entire State as to the most successful means of conducting the campaign along this line. It is with this in view that the committee suggests the topic.

The co-operation of every club in the State is needed, and needed at once. Through these columns this interchange of ideas will be brought about if only the clubs take the work in hand with the vigor which its importance merits. There are undeveloped fields surrounding every farmers' club in this State wherein successful clubs may be planted, and it is the duty of every one of the older clubs to see to it that these places are at once sought out and the work of organization immediately begun.

The clubs are deserving of every praise for their good work along these lines in the past, and the success of the State Association has been largely due to this fact. This effort has resulted in the formation of more than one hundred and fifty new clubs in this State during the past three years, and there is every possible assurance that the work of the coming year will meet with even greater success. Every letter received at this office during the past three months has been full of encouragement. Every club report, and especially every picnic report bears the stamp of permanent prosperity. The future looks bright, indeed.

A PRACTICAL SUGGESTION.

The time has come to plan an active campaign for the strengthening of our organization. In no better way can this be done than to follow the suggestion of the committee on Association questions as set forth in the announcement of the Association topic for September discussion. The clubs of the State seem to be united in a determination to make this effort to increase the number of clubs in the State a marked success. With this in mind, we would suggest that at the September meeting each club, at the close of the discussion of the Association topic, appoint a committee of one, two, or three members to assist in the formation of new clubs in the surrounding districts.

If every club in the State will appoint such a committee from among its most efficient workers, the coming year will be unquestionably the most prosperous of our organization. Let our motto be, "One hundred new clubs before April 1st."

CLUB REPORTS.

We wish to thank our correspondents for their uniform faithfulness in the performance of their duties, and for the

general excellence of their work. To the corresponding secretaries of the local clubs all credit is due for the phenomenal success of the associational movement, and too much can not be said in praise of their work. With our present contributors so loyally interested, we have no fears for the future of the farmers' club movement.

BRIGHTON FARMERS' CLUB WORK AND METHODS.

After a two months' vacation the club met at the home of Mr. and Mrs. John Sawyer, August 12. The attendance was small and those that did attend and took part had been out of service so long they could not get their minds on the subject before them, namely, "The Agricultural College." They undoubtedly would have done better if the question had come up after the excursion to the College than before, as a great number will avail themselves of this opportunity on the 19th inst., to see what they are helping support. A few discussed the question, part of whom favored the support of the College, while others thought they would not give a cent towards it.

As our editor of the Club department asks us to give our methods of conducting club meetings, I will try and comply. Brighton Farmers' Club was organized a year ago last January and has been in good working order ever since. It has the regular constitution and by-laws of any well regulated society. Our membership is not restricted, all may join that choose. The officers are president, vice-president, secretaries and treasurer. They are elected at our January meeting and serve through the year. We appoint an executive committee at the same time, that takes charge of the program for each month. It consists of two ladies and if possible they work together. They also serve through the year. We do not have topics especially for the ladies. The regular meetings are held the second Thursday of each month, excepting July, when we have our vacation.

We have all-day meetings, most of the members coming together at 11 o'clock. Usually we do not call the meeting to order until after dinner, when we have our regular program and discussion of the question.

Refreshments are brought by each family. A committee of two ladies is appointed, who distribute slips of paper among the ladies with different articles written on them, such as "biscuit," "cheese," "coffee," "sugar," "meats," etc. Those that do not get a slip are expected to bring the sweets. All the hostess is expected to furnish is milk. We use lapboards and have six dozen plates, spoons and teacups; also fifty camp stools. These are stored by the one that holds the meeting last until called for. Our meetings have mostly been very large and interesting.

Mr. and Mrs. Myron West will entertain the club September 9.

MRS. H. N. BEACH, Cor. Sec.
Livingston Co.

REPORTS OF LOCAL CLUBS.

HOWELL FARMERS' CLUB.

The August meeting of the Howell Farmers' Club was held at the home of Mr. and Mrs. R. R. Smith, August 5. Several new members were added to the club, making a total of ninety-one. After the usual opening exercises, the attention of the club was given to the literary program, which was well rendered from start to finish.

The discussion on the Association question, "The Agricultural College," was opened by H. Wells, a graduate of the College. Among other things he said: "I do not say every young man ought to go to the College. Much depends on the boy. Do not send anyone. However, he thought a course at the College would prove beneficial to those who desired to go."

Mr. Beckwith: "Along certain lines of farming the College is beneficial."

Mr. Peavy related a little occurrence which came under his observation, wherein the result was just the opposite of the professor's statement. According to that decision science did not play much of a part in agriculture.

Mr. Yerkes had not been to the College, but was benefited by the experiments conducted there.

Mr. Hildebrandt: "Experimenting is fooling away time. Not any two farms can be run on just the same plan, nor any two fields on the same farm treated exactly alike."

Mr. Horne did not know as much as he wished he did. He supposed the object of the College was to interest the

farmers. He thought they might be more interested than they were. College bulletins would be sent to you if you desire them. He wished he had taken the College course.

Mr. Staley: "Never go back on anything that benefits mankind. The College had benefited him. It had saved him some money."

Mr. Smith: Did not know enough about the College either to approve or condemn. However, he had noticed that most of the articles favoring the College were written by the professors, or those interested in the College in a pecuniary way, and therefore they should be read with due allowance.

The next object of attention was the question box, which contained some timely questions. The most important were: "Does the present outlook warrant holding wheat for higher prices?" Some went into ecstasies over the new tariff law. Others thought there was a foreign demand and that wheat might go higher, tariff or no tariff.

"What is the prospect of an advance in the price of beans?" Mr. Latson said he was talking with a bean dealer and he said beans would go higher. He also said the bean dealer was not a tariff man either.

"Do Bountiful Crops Impoverish a Country?" In view of the political cry of overproduction, this was rather a delicate question. However, it did not seem very good logic to assume that an abundance of crops should make people poor.

"Is Money Wealth?" Some thought it was. Others said strictly speaking money is not wealth. Still others emphatically declared that money was not wealth, and the sooner we rid ourselves of that erroneous idea the better it will be for us as producers of wealth.

Adjourned to meet at the home of Mr. and Mrs. E. E. Latson the first Thursday in September.

MRS. R. R. SMITH, Cor. Sec.
Livingston Co.

UNION FARMERS' CLUB.

The August meeting of this club was held at the residence of Mr. and Mrs. J. L. Holbrook, the 6th inst. The number present showed the club to have lost none of its interest during the hot weather.

After the opening exercises the host read an article on "Training for Farm Life." This was followed by the discussion of the Club question, "Has the Invention of Farm Machinery Always Benefited the Farmer?"

Mr. Ingersoll led, thinking any labor-saving machine a benefit, though many buy too much.

Mr. Woodbury thought the self-binder could not be dispensed with to the farmers' profit.

Mr. Keys said the condition of the farmer is no better than before the invention of so much machinery. The advantage lies entirely with the consumer of farm products.

Mr. Crell blessed the day when all was invented, though no doubt many buy more than they can afford.

Many of the bright and a few of the disagreeable things of farm life were mentioned by different members. No one found things disagreeable enough to drive them from the farm, but all found much to be thankful for.

That our club is not composed of farmers who do not appreciate the Agricultural College and willing to support it is shown in all the discussions.

Mr. Woodbury believes the president of the College is thoroughly imbued with the necessity of industrial training.

H. P. Keys: "Our soil is losing its newness and the State has just come to an age to appreciate the work of the College. People can now make use of a scientific education furnished by the State."

Rev. Scott: "Scientific men are finding out things and disseminating knowledge to farmers, indirectly benefiting them."

A motion made by William Bird that the club favor the licensing of traveling merchants in each township, met with much opposition, but was finally carried.

Adjourned, to meet with W. K. Sage and wife the first Saturday in September.

Clinton Co. MRS. L. SMITH, Cor. Sec.

TROY FARMERS' CLUB.

The Troy Farmers' Club met at the residence of Mrs. Belle Cone, Saturday afternoon, August 7. The meeting was called to order by the president, O. E. Hadsell. After the usual business of the Club was finished the president invited Miss Lucy Elliott to the chair during the rendering of the pro-

gram, which consisted of singing by the club, recitation, "Modern Cooking," by Miss Lola Jennings, followed by instrumental music by Miss Margaret Wilber; Miss Gertie Bailey recited a short selection, entitled, "Churning," after which Mrs. Ed. Jennings rendered a delightful vocal solo; Miss Mary Wattles then gave a short but pleasing reading from James Whitcomb Riley, followed by instrumental music by Miss Jennie Niles.

The program was closed by a question box, which afforded many and varied topics for discussion. Among the questions submitted were the following:

"Which is of more profit to the farmer, to sell milk or to make butter?" An interesting discussion among the members followed; the opinion seemed to be divided. "Of what use to the farmer is the Agricultural College?" This question being so broad it was decided to postpone it until the next meeting for discussion, to enable the members to become more familiar with the subject. In answer to the question, "What do they intend to do with the North Pole if they find it?" it was suggested to run up the American flag on it. "What part of the farm product should belong to the wife?" received much attention. As to the question of destroying obnoxious weeds our president declared they were a wise provision of Nature to protect the soil. The schoolgirl portion of the club were delighted to know that no home duties ought to be required of them on Saturday and during vacation.

The discussion of the various questions continued until adjournment, after which the large company assembled in the dining-room, where they enjoyed a bountiful supper prepared by the hostess, assisted by the refreshment committee.

It was unanimously decided this had been the largest and most successful meeting of the club.

MRS. GEORGE ELLIOTT, Cor. Sec.
Oakland Co.

THE SOUTH AVON FARMERS' CLUB PICNIC.

The regular meeting of the South Avon Club was held on August 12, but in place of assembling at the home of a member it was changed to a picnic at Lerich's grove, near Utica.

A program consisting of essays, readings and discussions, was given, and though rather long it held the attention to the close, which spoke well for the care taken in preparation.

The address of welcome by Hon. John M. Norton was followed by the response from William Norton. As both speakers are pioneers their remarks were largely devoted to reminiscences of earlier days, which were made to appear interesting and attractive in spite of the hardships.

Space will not permit of a detailed account of the program, but we will mention the paper, entitled, "Unscientific farming," which was read by Charles Ladd, as it included the Association question for the month.

It was asserted that an area in the eastern and southern part of this country as large as France had been nearly barren through poor methods of tillage, but now scientific farming is coming to the rescue. As a result of this demand for better methods of agriculture, schools for instruction in this subject have been established in the leading nations. Sweden devotes \$2,000,000 and France \$10,000,000 annually to this purpose. Germany, Italy and other European countries also contribute large sums for the study and teaching of agriculture. In this country Michigan has taken the lead in establishing a college of agriculture, which has continued one of the best in America.

The discussion showed an appreciation of the work being done by this institution which has come from an understanding of the subject.

"Should the United States annex the Hawaiian Islands?" was announced as the question for discussion which A. G. Griggs, of the West Avon Club, was called upon to open. The speaker objected strongly to any further extension of our territory, believing that our boundaries were such as were naturally designed for a nation, and within them were all the resources necessary to supply the wants of civilized man. It was more desirable to improve the government of the territory we already possessed than take in an alien element that might cause trouble. One of the chief causes for the destruction of nations had been the grasping of more territory than could be properly governed.

In opposition it was urged that

Hawaii would be needed for self protection. With our growing population we should aim to obtain control of the commerce of the world, and for this purpose the islands would be essential as a naval station for guarding our interests in the Pacific. They should be annexed to keep them from falling into the hands of some other nation, though they might be of little value in other ways.

The next meeting of the club will be held at the home of Mr. David Randall, of South Avon.

Oakland Co. F. D. W.
PUTNAM AND HAMBURG FARMERS' CLUB.

This club held a very pleasant meeting at the home of Mr. and Mrs. John Sheehan on the 31st inst. Although a busy season of the year a large company was present, and the afternoon was very pleasantly spent in musical entertainment, both vocal and instrumental, and with readings and recitations. The Association question was not taken up as the members were not inclined to talk on that subject. The questions in the question box were next disposed of.

It was decided to hold no meeting in August, on account of the Farmers' picnic at Whitmore Lake, and a number of other picnics and excursions in the near future.

The meeting adjourned, to meet with Mr. and Mrs. Rice, in Hamburg, the 25th of September.

J. T. CHAMBERS, Reporter.
Livingston Co.
THE WASHINGTON FARMERS' CLUB ANNUAL PICNIC.

The annual picnic of the Washington Club was held in Baker's grove, near Washington, on August 11. The club has become famous for its annual picnic, which has been looked upon as one of the important events of the summer, one of those gatherings which are attended by former friends and neighbors, who find this an excellent opportunity to return and renew old acquaintances.

Owing to several unfortunate circumstances the speakers whom it was hoped to obtain could not be had. But as the club has several good speakers among its members, as well as more than the usual supply of musical talent, an interesting program was made out at the last moment, which spoke well for the resources of the club.

First in order was the address of welcome by the president, J. S. Lawson, who spoke briefly about the objects of the Farmers' Club organization. It was, he claimed, for the benefit of the many. There were no passwords or rituals, and but little expense. The results were easily to be seen in better and more intelligent citizens, and in the interest which had been awakened in state and national affairs.

Hon. J. H. Halmon, of Rochester, was then called upon. He responded with some good advice in regard to the political importance of the clubs. He urged the farmers to inform themselves thoroughly upon questions of national importance, and in this way become a power whose interests could not be ignored by lawmakers.

A question box followed, which had begun to excite considerable interest when the rain put a stop to further proceedings.

The program was enlivened by declamations and music, which added much to the interest and the enjoyment of the occasion.

The next meeting will be held at Washington on Thursday, September 2, when the club will give a program conjointly with the Bay City Council of the Grange. The club has frequently joined with this council in meetings of this kind and has found them a pleasure as well as a profit to all concerned.

Macomb Co. F. D. W.
BLISSFIELD FARMERS' CLUB.

Blissfield Farmers' Club met August 11 at the home of Mr. and Mrs. J. B. Clement. They have a beautiful home on Pearl street, in the village. After partaking of a sumptuous dinner President W. H. Colyer called the meeting to order. He congratulated the club for having such a large attendance. This being a pioneer meeting, a good many of the oldest residents were present. After listening to the literary exercises, Mrs. Susan T. Carpenter read a historical essay on the early history of Lenawee county and the township of Blissfield, giving the number of inhabitants at different periods, the number that held offices, there being sometimes hardly men enough for the places.

Mrs. W. W. Goff read a paper on "Pioneer Women," setting forth the life of toil and privations she endured, the influence she exercised in shaping

the course of events from year to year, very materially helping to brighten and make endurable the lonely and crude life which they lived. Mrs. Cicero Torrey read a paper giving the description of the log cabin and the lives of a few of the early settlers, the courage and pluck displayed in meeting the dangers and privations they had to endure.

W. G. Giles said he was not born in any state, county or township. He was born twenty-five years ago when this was a territory. He sang "Michigan," which was well received. He told of his father and mother coming here when it was all woods. His mother was nurse, midwife and doctor for miles around.

P. T. Davenport sang two verses that Mr. Giles left out and was warmly cheered, as he is over eighty years old. He and his son took care of fifty acres of grain this harvest.

E. L. Lockwood, of the Summerfield and Deerfield Club, gave an interesting account of settling on his farm. The land was so wet he had to take a canoe to get to the road. Now it is one of the finest farms in Monroe county. There were not men enough in the school district, so his wife had to be one of the school officers.

Walter Furman gave a good description of coming from Toledo through cottonwood swamps; of staying all night in a log cabin; he saw a little girl running around, who afterwards became his wife, and he made no mistake when he took her.

George R. Brown, J. K. Crane and W. H. Osborne spoke, giving incidents of their early life, the character and perseverance displayed in securing a home, of the industry and frugality which was largely displayed by nearly all.

Lenawee Co. J. K. CRANE, Reporter.
WEBSTER FARMERS' CLUB OF OAKLAND COUNTY.

Instead of our July meeting turning out a "feast of reason" it was more a feast to the inner man.

It being all the "Fourth" the most of us expected, it was given up mostly to feasting and having a sort of picnic, although we had a short literary program and some discussion on the Agricultural College. Dr. Carpenter, of Missouri, was visiting in the neighborhood at the time and attended the club. He said twenty-one years ago he was a student at the Agricultural College. He could not speak in too much praise of the institution. He advised everyone to do all in their power to help keep it up. He said Michigan's colleges of learning are famous the world over.

Some admitted they knew nothing about it. Others thought it caused a great expense to keep it up, and some had nothing to say on the subject at all.

This was the first meeting we have held that we did not receive new members. The business of the day being completed, the club adjourned to meet in August at Mr. and Mrs. L. L. Richmond's.

The August meeting was very well attended, considering we had to go through a pouring rain. We added two new names to our list. Some papers that had been published in the Michigan Farmer on the Agricultural College were read by different members, hoping to bring out a discussion on the subject.

Mr. Seemark was the only person who had anything to say on the subject. He knew nothing of it personally, but from reading and hearing of it thought it an institution worth keeping up and advised all who could do so to send their sons and daughters there and teach them to be better farmers and farmers' wives. He said the time was when he thought it required less knowledge to farm than in any other occupation, but he had changed his mind and now thought it required the most.

Our Club question, "Do combines injure the price of farm produce?" was then taken up.

W. E. Carpenter read a very excellent paper on this subject. He thought combines a nuisance and if things go on for a few years as they have for the past few, this country will be in just the predicament England is in. The money will all be in the hands of a few rich men and the rest could go begging.

A. B. Richmond said he thought combines were a good thing sometimes and said in a joking way, "I do not believe half you said in that paper and do not believe you do either."

One of the questions contained in the question box was, "Of what use is the signal service to farmers?" L. L. Richmond thought it was not of much account, for hardly anyone understood the signs on the trains.

Mr. T. Seemark said it would be a benefit when we have free mail delivery and get printed reports in the papers.

The meeting was adjourned, to meet the first Wednesday in September with Mr. and Mrs. John Northrope.

MRS. T. SEAMARK, Cor. Sec.
Oakland Co.

GRAND BLANC FARMERS' CLUB.
The August meeting of Grand Blanc Farmers' Club was held the evening of the 13th. The president being absent, Mrs. John Cook, vice-president, called the meeting to order. After the regular order of business and music by our band, the Association topic was introduced by a paper from Clare Parker, a student at the College. Of course he thinks it a benefit to the farmer. He gave the expense to a student; also spoke of the various societies; said there were six open and one fraternal society, and thought everything now was being done to improve the conditions and commended President J. L. Snyder and his work.

Mr. Jennings, of the Mundy Club, thought the farming done there was on the kid glove order. He did not think the College of any practical benefit. The most benefit derived was by the teachers in the form of salary.

Philip Embury told of his experience while at school there and of the business side of the education he received there.

D. P. Dewey made some very pertinent remarks. He thought the College should not be wholly condemned because of some mistakes which might have been made.

A paper by Cassen Parsons, subject, "The sugar beet," was full of sweet things. He said the hardest thing in the world to do was to keep sweet, and he proved by statistics that the American people were, or should be, the sweetest in the world, since they used the most sugar. He said the beets could be raised in our county, as it is in the sugar belt. He also gave the best methods of cultivation, etc. This, with recitations and music, completed the evening program.

I would like some of the clubs to tell us their method of preserving order, as well as of their work.

Genesee Co. M. S. EAMES, Cor. Sec.
THE WALES FARMERS' CLUB.

The Wales Farmers' Club met at the home of Robert McKenzie August 6. The meeting was well attended for this season of the year. The forenoon session, which belongs to the ladies, was conducted by Mr. Dunning. The topic under discussion was, "Which has most to do with a man's moral character, his mother's teachings or his hereditary principles?" Opinions were about equally divided.

The topic for next meeting will be, "Is the law just to the widow with regard to the distribution of a man's property at his demise?" The gentlemen are invited to aid in the discussion. The dinner was served under the shade of the orchard trees.

The meeting was again called to order by President C. S. King. The first topic to receive attention was, "How to eradicate June grass." Various methods were given; those most effectual were to plow shallow in the fall and in the spring to sow grain. One said a crop of buckwheat was good to smother it out. One opinion was that June grass is a natural grass and would come up where other grasses and grain killed out.

This was followed by talk on the Agricultural College.

C. S. King said the College is the best place for a young man to go to receive a practical education and become an experienced farmer. A vote was taken, the result of which showed the club members to be unanimously in favor of the College and of giving it patronage. A letter was read by C. S. King from K. L. Butterfield relating to Institute work. The literary program was well carried out by the young people.

The club adjourned, to meet at the home of James Dunsmore on September 3.

MRS. ALBERT HAND, Cor. Sec.
St. Clair Co.
CAMBRIDGE AND WOODSTOCK FARMERS' CLUB ANNUAL PICNIC.

The Cambridge and Woodstock Farmers' Club picnic was held at Putnam's grove, Sand Lake, August 14, and although many members from both clubs were unavoidably absent, still both were well represented and an enjoyable day was passed by all present.

After dinner was dispensed with the clubs were called to order by the president, E. A. Taylor. A very pleasing program, consisting of quartets, duets, recitations and short addresses was then carried out.

The East Cambridge and Franklin Club joined the Picnic Association. Mrs. Germaine, of that club, gave a short talk upon the following subject: "How can we make the Farmers' Club a success?" First, have good order, go to work at it as you would any business in which you intended to make money; do not stay at home when possible to go, but go and help your president by doing the part allotted to you; have something to say that will be helpful to others.

The second topic, "Observations," was taken up by John Dewey. He briefly outlined his methods of raising the particular things to which he gives his attention—corn, oats, wheat, potatoes and live stock; also his ideas of making and maintaining good roads.

The third topic, "Gardening for the farmer," by John Hand, contained many good points. First, spread coarse manure and plow in the fall, then plow again in the spring; buy good seeds from some reliable seed firm; mark one way; plant in rows, five rows to the rod; set a number of hens, so that they will bring out their broods about the time the plants appear; confine the mother hens in the garden, giving the little chicks full run—they will keep all the little insects off; use air-slacked lime for the striped bugs on cucumbers; for the bugs which infest squash vines lay boards near the hills at night—the bugs will gather under these boards and can be killed in the morning; cultivate as soon as the plants appear, and once a week after this.

The officers for the ensuing year were then elected and the meeting was dismissed by the president. After the adjournment a social time was passed, after which the members dispersed to their homes.

MRS. J. H. TRUMBULL,
Club Reporter Woodstock Farmers' Club,
Lenawee Co.

SPRINGPORT FARMERS' CLUB PICNIC.

The August meeting on the 14th inst. was held at Duck Lake, when about 250 members and friends gathered to listen to the brief but pointed talk given by Prof. Clinton D. Smith, of the Agricultural College. He made the point, that the great abundance of wealth was not the entire necessity to the farmer's happiness, but a closer fellowship and mingling together for the exchange of views and experience in our work. These were being encouraged by our clubs. He thought the telephone between farm homes and the bicycle as a motor would do much toward bringing our farmers in closer communion. The education of our sons and daughters in the many diverse branches of farming, and especially in combatting the many diseases of farm animals and the injurious insect pests was advocated. The College was doing a great work along these lines. In speaking of the breeds of cattle he recommended the Shorthorn as the best for all-round purposes.

In accepting the vote of thanks of the club, he extended a general invitation for all to visit the College and witness its work. The next meeting will be at President Griffith's September 11, subject, "Best mode of cultivation for wheat?"

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DETROIT, SATURDAY, AUGUST 28, 1897.

This paper is entered at the Detroit Postoffice as second class matter.

THE FARMER EXCURSION.

A party of over 100 started on The Farmer excursion Monday evening last, arriving at the Island of Mackinac on Wednesday morning at 6 o'clock. From there the largest number returned to Detroit on the same steamer, after remaining a few hours on the island, and arrived at Detroit on Thursday morning at 9 o'clock. The others went to Sault Ste. Marie, or the "Soo," and will arrive in Detroit on Saturday p. m. We need hardly say the excursion was in every way a great success, and those who participated in it were greatly pleased, and expressed the hope that a similar one would be given next year. The weather was fine, and not an incident occurred to mar the pleasure of those who took part in the first annual excursion of The Michigan Farmer.

A farmer named Duffield, in Berrien county, has been experimenting with a Chicago commission house, and the result is not at all satisfactory. He shipped 50 bushels of peas and wax beans to the firm, and in return received a check for fifty-seven cents! What a munificent return for the labor of planting, growing, harvesting and shipping those 50 bushels of peas and beans. These commission men neither toll nor spin, but they manage to get the lion's share of the fruits of others' labor just the same, and will until there is some law to prevent them taking more than half a shipment as their share. It would have paid Mr. Duffield far better to let his fields grow up with weeds rather than work hard to support Chicago commission houses and their honest proprietors.

It is reported that the Russian government, in view of the poor out-turn of the wheat crop in the southern section of that vast country, is meditating the promulgation of a decree prohibiting the export of that grain. If such action is taken the result will be a tremendous struggle among European nations for the surplus crop of the United States. What the result upon values would be can hardly be estimated, but it would surely advance them 25 per cent or more, and knock all calculations of the most experienced operators in grain. However, one thing is cer-

tain: for the first time in five years the American farmer is on top, and his position seems to be getting stronger from week to week.

TRADES UNIONISM—ITS RIGHTS WRONGS.

The gradual assumption by the various trades unions of the country of the right not only to dictate the wages which shall be paid, but who shall be employed, how the funds of the city shall be expended, and to whom they shall be paid, will surely come before the courts for settlement before long. The unions in this city are very aggressive at present, and the fact that they are supposed to control a great many votes makes the average public official extremely careful in attempting to resist their encroachments. The unions now demand, and in some instances have succeeded, in securing the insertion of a clause in the city building contracts, that none but union men shall be employed upon them or the contract shall be declared null and void. As a matter of law we do not believe such a provision will be sustained by the courts, and that a contract containing it is more likely to be declared void because of it than for its non-enforcement.

And, when the question is fairly considered, we think that its injustice and illegality must be apparent even to the members of unions themselves. When the taxes are levied they are supposed to be placed equally upon the property of all citizens, whether they are members of unions or not, and it follows that in their expenditure each class of citizens are equally entitled to any benefit arising therefrom. There can be no gainsaying this conclusion, and this attempt of members of trades unions to give certain classes of citizens privileges not common to all is totally at variance with the principles upon which the government was founded and the constitution under which we live. The declaration of independence would be a humbug if such class distinctions were allowed.

As to trade unions in the concrete, we believe they can be, and have been in the past, a good thing for their members. They have aided in securing better wages, and in shortening the hours of toil. Conducted properly they are an efficient aid in securing justice to their members, and in stopping the fierce competition of employers by standing up for a uniform scale of wages, which is a protection to the employer in making his contracts. He knows his competitors must pay so much for wages, and that gives him and his competitors a common basis upon which to figure. But good organizations can be used for bad purposes, and we believe this is done when trades unions are used to prevent citizens getting their legal rights, on the specious ground that a man who does not belong to a union has no rights that unions are bound to respect. This question is up for settlement, and the sooner it is settled, and for all time, the better for all concerned.

A CURE FOR SMUT.

The State Millers' Association, through its secretary, is sending out the following on a printed slip:

"Take half a bushel of seed in a wire basket or perforated vessel and immerse it in water heated to a temperature of 110 degrees Fahr. Then immerse the seed for a few minutes in scalding water at 132 to 133 degrees Fahr., but not in any case above 135 degrees. Keep the waters at an even temperature by adding hot water. The amount of scalding water should be eight times as great as the seed treated, and the thermometer should be consulted all the time the wheat is in the scalding water. Spread the cleaned wheat out thinly on the floor or on a canvass to dry. Then finally place it in bags that

have been boiled fifteen minutes, or in new bags. It is best to treat wheat just before planting."

We doubt the policy of relying upon the hot water treatment of seed wheat for the prevention of smut in the succeeding crop. This treatment has been found very efficacious in the treatment of oats, but in some instances which have come to our knowledge, was a failure with wheat, and when one comes to consider the character of smut and the difference in wheat and oats it will be seen why the hot water treatment is successful with one and a failure with the other. It requires a high temperature to kill the spores of smut, at least five degrees higher than is recommended in the slip printed above. With wheat this is very apt to kill the germ, as well as the smut spores. Oats, however, are protected by a husk, upon which the smut spores fasten. This husk protects the germ of the oats from being affected by heat, which would be fatal to the unprotected wheat. But there is a certain remedy for smut in wheat, and that is to soak the seed for about fifteen minutes in a solution of copper sulphate, or blue vitriol, and sow as soon as dry enough to run through the drill. To facilitate this, it is recommended that the seed be sprinkled with air-slacked lime after treatment, which will help absorb the moisture and also obviate trouble from the caustic effects of the solution.

We know of one instance at the Agricultural College in which the hot-water treatment failed to prevent the crop being attacked by smut, while the blue vitriol treatment was a perfect success.

We suggest to Secretary Hanshue that he call on Dr. Kedzie or Prof. Clinton D. Smith for information regarding the two methods of treatment before sending out any more of those slips.

POTATOES AND BEANS.

To the Editor of The Michigan Farmer:

I would like to know, through the columns of your paper, what the outlook for potatoes and beans is throughout the State, also the United States. In our county the acreage of potatoes and beans is but half what it was last year, and the bugs have damaged what potatoes there are.

Calhoun County, Mich. C. E. FARLEY.

The two crops specified are very difficult to get reliable statistics about, the conditions change so frequently and rapidly. It may be set down as a settled fact, however, that the potato crop of the country will be fully 25 per cent less than a year ago. The U. S. crop report puts the condition of potatoes at 77.9 per cent of an average crop, but is silent regarding the acreage. In this State the last report puts the estimated yield at seven-tenths of an average crop. From the weather conditions which have since obtained, and the unusual number of bugs which have attacked the crop in nearly every section of the State, we do not look for more than 60 per cent of last year's crop. The frequent rains in some sections of the State are affecting the crop injuriously. We note special reports from Iowa and Nebraska are also very unfavorable. There is one thing which should be remembered in connection with this crop: there are no hidden supplies to appear unexpectedly and confound statisticians, dealers and growers. Each year's crop stands by itself and cannot affect the succeeding one as in the case of grains and beans. The value of the crop, however, is always affected by cheap bread-stuffs, especially wheat and rye. This year there will be no cheap flour to replace potatoes when the price advances, so we look for good prices—above the average—with values advancing with the season. Probably as high as 40 or 50 cents per bushel will be realized for good potatoes this season, and with this in view,

it will be good policy to put a little extra work on the fields to stop the ravages of the bug.

When we come to beans, conditions are somewhat changed. The State report estimates there will be nine-tenths of a crop. Perhaps the condition of the crop justifies this estimate, but we believe the reduced acreage, as compared with the past two years, will cut down the crop so that it will not be more than 80 per cent of last year. Then weather conditions are not at all favorable in many sections of this State, and if the rains should keep up during harvest, there will be great loss from the crop molding. The season has been a good growing one, and the plants look vigorous and well grown where we have had an opportunity of inspecting the fields. But they are likely to ripen unevenly, and if the weather is wet so they cannot be properly cured, there will be great quantities of culls and refuse, only fit for stock feed. The value of beans is also affected by cheap bread-stuffs, but they will not have to meet that competition this season. But there are probably considerable quantities of old beans held over, not much in any one individual's hands, but scattered in small amounts over a large number of farms. If so, this will naturally affect prices to the extent they have been held. But, upon the whole, conditions are favorable for better prices than have prevailed for the past two years, and the market is more likely to advance with the season than decline.

Eastern markets—New York, Boston, Philadelphia and Pittsburgh—are all advancing, which argues light stocks there, and not a very brilliant crop outlook.

GOT MIXED SEED WHEAT.

To the Editor of The Michigan Farmer:

About a year ago I sent to the Haddington Stock Farm for Dawson's Golden Chaff wheat. As that firm had sold all of its seed, my order was transferred to a firm in Grand Rapids. I sowed my wheat, being very careful that none other was mixed with it. When I harvested this season, I was well pleased with the yield, but it consisted of three different heads: a smooth golden brown, a smooth white and a bearded white. Now if the Golden Chaff is a smooth white, why the name Golden Chaff? I think one should be very careful how he advertises, and then very careful to live up to his ad. How did Golden Chaff originate? Which one of my three kinds is the true Golden Chaff? Would like to know the experience of Farmer readers.

Clearwater, Mich.

G. W. G.

Most of our correspondent's questions are answered in last issue. It is quite evident his seed is badly mixed, and we would recommend, in view of the relatively low price at which the Golden Chaff is now offered, that he sell his entire crop and procure new seed from a reliable source. The seed wheat sent out by the Haddington Stock Farm must have been all right, as we never heard a complaint. It is safest to send back orders when the party has not the goods to fill them. But a seed firm who would send out mixed seed are either ignoramuses or frauds. A seed firm should have experts in its employ to prevent such occurrences, and ought to be severely dealt with when through carelessness or willful dishonesty, they sell mixed seed. It may be that none of the three varieties are Dawson's Golden Chaff.

C. B. T., Plymouth, Mich., sends the following query: "Is there any duty on stallions brought in from Canada for breeding purposes? If any, what per cent?" There is no duty upon any farm live stock brought in for breeding purposes, provided the animal belongs to a recognized breed, and is duly registered in a recognized register of the breed. See that these provisions are observed, and you will not have any duty to pay.

Grange Department.

Our Motto:—"The farmer is of more consequence than the farm, and should be first improved."

Address all correspondence for this department to
KENYON L. BUTTERFIELD,
AGRICULTURAL COLLEGE, - - MICH.

News from Michigan Granges is especially solicited.

THE MICHIGAN FARMER AND THE GRANGES.

We notice in the last Farmer a special offer to those subscribing to the paper for the remainder of the year. It occurs to us that this is an excellent opportunity for Patrons to become acquainted with the official organ of the Grange, for that is what The Michigan Farmer now is. We imagine that there are hundreds of Patrons who never see The Farmer. No farmer in the State should be without The Michigan Farmer simply because it is the representative agricultural paper of the State; but especially no Patron should go without The Farmer since it has established the Grange department. This is not a question of benefit to The Michigan Farmer, it is a question of benefit to the individual Patron of the Subordinate Grange, and to the Grange at large. Any Patron who has the least interest in the Grange and its work ought to be eager to subscribe for The Farmer, that he may have the benefit of the experience of other Patrons in Grange work, and keep posted on what is taking place among the Granges. We hope that Grange officers will make a special effort, right away, to see that The Michigan Farmer is placed in every family in every Grange in Michigan.

CLEAN FAIRS.

Since the publication, in The Farmer, of the resolution adopted by the American Association of Farmers' Institute Managers regarding clean fairs, word has come to us from the managers of several county fairs, stating that for several years it has been their uniform practice to exclude from their grounds everything that was questionable, and to substitute for these questionable things, exhibitions and attractions that are really educating and helpful. As we look over the State and find out what fairs have been successful and what ones have been unable to meet expenses, we find that in almost every case the successful fairs are clean fairs. That this is more than a coincidence, we think is beyond question. But the matter of financial success sinks into insignificance, beside the moral question involved. Fairs are not run to make money simply, although they must be run on a business basis. But they have no possible excuse for existence unless they act as real educators of the people. The moment they degenerate into circuses and mere exhibitions for the purpose of collecting money, they had better be abolished. We hope that those of our readers who are connected with these fairs will take a stand, if it be necessary, for a clean fair this fall, and simply insist that everything that is questionable be kept off the grounds.

THE FOUNTAIN-HEAD OF PROSPERITY.

Orators, who are farmers, always take pains to say that agriculture is the source of national prosperity. Sometimes orators, not farmers, say the same thing; more especially at election time. But the testimony of level-headed business men on the condition of affairs which has been coming to a head during the past few weeks is to the same effect. It is not a case of oratory, nor of securing votes, but it is a simple business proposition. In almost every instance in the periodicals of the last few weeks, whenever the question of returning prosperity has been broached, the writer pointed to the fact that there are immense crops of agricultural products, and that, in the main, there will be increased prices for these products. This is a substantial and practical confession of the fact that agriculture is not simply a barometer or a weather-vane, indicating whether the people are prosperous or not, but is in very truth, in this nation at least, the prime source of prosperity. This is a fact that not only the farmers themselves need to learn, but it is a fact which ought to be impressed upon legislatures and business men.

THE PICNICS AT M. A. C.

We hope to have reports from the various Grange picnics which have taken place recently, and we will start the ball rolling by mentioning the fact that the picnics advertised for the Agricultural College were successful beyond all expectations. On Tuesday, August 17, an excursion came from Battle Creek and stations between there and Lansing, and at least 300 people visited the College grounds. On Thursday, the 19th, railroads brought into Lansing over 1,800 people, at least 1,300 of whom visited the College grounds. These came from Greenville and stations between there and Lansing, and from Plymouth and stations between there and Lansing, and the crowd was about evenly divided between the two directions. On Friday the 20th, over 1,600 people came from Holland and Grand Rapids way, and probably 1,300 of these visited the College.

Nearly all of these people were farmers, and, too, the very best farmers in their respective localities. All members of the family were included, and they came to see the College and learn what they could about its work and its facilities. They were given an opportunity to inspect the whole institution, and, from the expressions heard as they were going away, we believe that everyone was well pleased with what they saw. Probably 95 per cent of those who came had not visited the College before, and had not the least notion of what the College is like.

GRANGE NEWS.

LIMECREEK GRANGE, NO. 712.

Our meetings, owing to the busy time, have not been as largely attended as usual for the past few weeks. But at our last meeting Miss Matie E. Ticknor, of Ann Arbor, gave a recital to a full house and all were very much pleased with it. After the program the ladies served ice cream in the dining room below. The proceeds go for the circulating library. Have any of the Granges tried this library? If so, with what success?

Lenawee Co.

COR.

WAYNE COUNTY POMONA GRANGE.
The Wayne County Pomona Grange met with the Flat Rock Grange at the home of Brother and Sister Wagar, one mile north of Flat Rock, Friday, Aug. 13th. In the forenoon, after the usual business session, was the singing, welcome, response, and reports of Subordinate Granges. The members were then invited to partake of the bountiful repast prepared by the sisters. In the afternoon an interesting program was carried out. Brother Perry, the worthy lecturer, had provided several members with excellent questions for discussion, all of which were ably handled. Brother Shetrum gave some valuable information from his experience regarding the culture of strawberries. The questions were interspersed with singing by the choir of the Grafton Grange, an instrumental quartet, a solo by Miss Minnie Grundman, accompanied by the guitar and organ, and also a solo by Miss Mina Shetrum. Brother Ray Kent gave an outline of "Our Grange"—our duty to ourselves and other Granges. After an enjoyable supper, all returned home thinking of the pleasant time just spent, and looking forward to the coming October, when Pomona would welcome us at the Willow Grange hall.

Lenawee Co.

COR.

WESTERN POMONA'S GOOD MEETING.
Western Pomona Grange met with Ravenna Grange at their fine, large hall in Ravenna, Aug. 12 and 13, with every officer present except Ceres. After dinner, which was prepared by the sisters of Ravenna Grange, the meeting was called to order in open session with about 60 Patrons and friends in attendance.

The first subject on the program, "Is a liberal education an aid to the financial success of the farmer?" was led by Bro. Mansor Smith. In answering the question by yes or no he would say yes decidedly. The educated farmer knows better the proper fertilizers to apply to the different soils of his farm, and can better combat the pests of the orchard. Bro. F. Woodard maintained that the farmer does not need to be educated to produce more, but an education that will aid him to better dispose of his produce and get a fair return for his labor.

Bro. T. Bettis, of Trent, presented the subject, "What invention has been the most beneficial to the farmer and why?" He decided in favor of the plow, for without that the later inventions would be of little use.

Bro. S. Stauffer, of Lisbon, intro-

duced the subject, "Our county fairs, their aim, how far a success and wherein a failure?" The unwise expenditure of the monies of the fairs and the lack of patronage by the people, were mentioned as some of the reasons of their failure. The wheels of fortune and games of chance were bitterly denounced. It was suggested that a series of lectures be furnished for the entertainment of those who do not attend the horse races.

Bro. E. C. Smith, of Ravenna Grange, gave a fine and interesting talk on the subject, "What should be the true relation between the farmer and the government? How can farmers best maintain their rightful position in the law-making bodies of the land?" The discussion following was interesting and instructive.

A recitation entitled, "The harvest," was rendered by Sister Bettis, of Trent. Sister Ida Prescott, of Hudsonville, presented the subject, "The use and abuse of fiction." The use of fiction by the best authors was upheld and its excessive use to the exclusion of other reading condemned. She also urged the importance of placing good literature in the hands of the young.

The above program was interspersed with vocal and instrumental music, making it very enjoyable.

Friday morning's session was devoted mainly to business. Another series of Grange lectures within the jurisdiction of Western Pomona is contemplated.

The next meeting will be held with Georgetown Grange at their hall, Oct. 28 and 29.

MRS. BERTHA SMITH, Sec.

ALLEGAN COUNTY POMONA GRANGE.

This Grange was very pleasantly entertained by Allegan Central Grange July 29th. As the busy harvest days were over, a large number gathered to enjoy what we think was one of the best Grange meetings it has ever been our good fortune to attend. An excellent program was prepared and everybody went home thoroughly pleased with the day and wishing they could meet twelve times a year instead of four.

The next meeting will be held with Ganges Grange, Oct. 21st. As a great many have never visited the peach belt in the western part of Allegan county, they should improve this opportunity, as our good brothers and sisters from Ganges declared themselves ready and willing to receive all that would come. Then let us hurry up our fall work and, as many as can, meet at Ganges Grange hall, Oct. 21st, and enjoy another of those red letter days so prized by Allegan county Patrons and farmers.

MRS. A. O. BRAGG, Sec.

Allegan Co.

NEWAYGO COUNTY POMONA.

Newaygo County Pomona Grange met with Ensley Centre Grange, No. 544, Aug. 18-19, and although many of those to whom subjects had been assigned on the program were absent, there was a fair turnout and a pleasant time was had. Delegations from Ashland, Fremont and Holton were present as visitors, but we are sorry to say that our Hesperia brethren were conspicuous by their absence.

Good discussions were manifest. The subject, "How much of the success of life depends on little things," was handled by Sister Hall, Bros. Zerlant and J. H. Haskins, followed by others. "Which is more desirable in life, knowledge or character?" was treated by Bros. Rosewarne, Rich and others, and it was decided unanimously in favor of character as the more desirable. "What should be the true relation between the farmer and the government?" was discussed by Bros. J. H. Haskins, Rosewarne, Rich, C. T. Haskins, and a very interesting discussion resulted.

Mrs. C. Haskins favored the Grange with an appropriate select reading. "What can women do best to add to the finances?" was ably handled by Sisters W. C. Stuart, O. Hall, G. A. Whitbeck and others. The theories that were advanced last fall as panaceas for our financial ills weren't "in it" with the various theories offered by the sisters. Economy of the household and raising turkeys and various other plans were offered.

"To what extent does the duty on Canadian products benefit the farmers of Michigan?" was treated in an exhaustive manner by Bros. Rich, Haskins, Rosewarne, Keeney, Clark and others. The majority decided the duty agreeable to the farmers of Michigan. "Is the Grange fulfilling its mission and meeting the demands of the times?" was ably led by Bro. A. L. Rich. He thought that socially the

Grange was meeting the demand, but its co-operative system should be more carefully looked after. He was followed by Bros. Reinoldt, Blanding, Stuart and others. Bro. W. C. Stuart gave a good talk on co-operation and also gave an interesting illustration of the successful work of the Newaygo County Fruit Growers' Union, of which he is secretary.

Bro. J. B. King handled "Do Farmers live as well and as economically as they might?" in a very commendable manner. He believes in giving the boys on the farm a chance, a well-known fact, and thinks a farmer should live better than any other class. Bro. A. L. Rich and others tried to overthrow his argument, but were unsuccessful because we all know that Rich does not always practice what he preaches.

Music was furnished by Ensley Grange choir, which deserves great credit for their work. Recitations interspersed the discussions. Maude Leslie, Mamie Ellis, Violet and Edna Holmes, Albert Moore, Miss Alice Rich, Mr. and Mrs. G. A. Whitbeck favored us with a sample of their talents in this line.

The Maple Valley Farmers' Club were welcome guests of the Patrons at Thursday's meeting. Next Pomona will meet with Hesperia Grange, October 5-6.

Newaygo Co.

JAMES B. HASKINS.

RELATION BETWEEN TEACHER AND PARENT.

(From a paper read at Casnovia and Ashland Patrons and Teachers' Association, by Miss E. Ellen Fuhrman, Muskegon.)

"To intelligently judge the work of the school-room, it is necessary to understand some of the difficulties which beset teachers. A large part of them have their origin in the want of co-operation, or in the misdirected influence of the parents. Let us, for a few moments, inquire into the causes of the difficulties, that we may adopt a preventative or devise a remedy.

1. Parents do not sufficiently feel the importance of schools. After all that has been said in our legislative halls, in our political assemblies, in our public journals, and in our pulpits, on the importance, to a free and independent people, of a good education, there are very many who have no adequate notion of its value.

2. A false standard of excellence for our schools sometimes exists in the minds of parents. The standard of their own attainments and of the schools of their boyhood is put by many parents for the youth and schools of the present day. They do not seem to reflect that a child, to maintain his comparative standing in society, must know more than if he had lived fifty years ago. The world is progressing. Education and general culture are keeping pace with the march of time.

3. There is often a suspicious spirit on the part of parents. They seem to stand on the opposite side, to keep watch for the appearance of some fault on the part of the teacher. Children, always ready imitators, are quick to discern and catch the same spirit, and watch for some imperfection which they feel encouraged to report at home as soon as they see it, or think they see it.

"There is a want of personal acquaintance between the parties. Teachers, in many of our schools, spend months, and, in some instances, years, with children whose parents they have never known. The latter have probably formed their opinions of the teacher, perhaps have freely expressed them, and yet, have never spoken a word to him. They can really know nothing of him; his temperament; tastes; ideals, and hopes. All they do know of him is derived from their children; a knowledge, which, to say the most of it, may be either right or wrong.

"Let us not be understood to place all the causes of these evils at the door of the parents. We regret that teachers have too often rendered themselves unworthy of the confidence and co-operation of the parents. They have sometimes entered upon the business of teaching from no higher motive than their incapacity to gain a livelihood in any other way. They have secured their positions through the efforts of an influential friend on the school board, perhaps, or through the paper qualifications they carried in their pockets, but as far as any real ability is concerned, might have been dress-makers' or tailors' dummies."

That tired feeling can be overcome and your system built up by taking Hood's Sarsaparilla.

The Household.

CONDUCTED BY MRS. ELLA E. ROCKWOOD, FLINT, MICH.

We should be pleased to have any of our readers who take an interest in household topics, send in their views and opinions upon any subject which is under discussion, or which they wish discussed. The invitation is general, and we hope to see it accepted by many. Address all letters for The Household to Mrs. Ella E. Rockwood, Flint, Mich.

PIES.

When I was but a little maid,
Of years not more than five,
I made mud pies beneath the trees,
The happiest child alive.
I molded them with fondest care,
I shaped them one by one,
Then crimped the edges prettily,
And baked them in the sun.

Since then a many years have flown,
And still I'm making pies,
Although a difference I own
In methods and supplies.
And husband now, and children all
Look with reproach at me,
If thrice upon the festal board
Each day no pies they see.

Ah, me, why was my childish play
Not nipped while in the bud?
Why did I try my 'prentice hand
Upon those pies of mud?
For I have now so crusty grown,
Yet none do realize,
That I'm a martyr to the cause
Of pies, pies, pies.

GOOD HOUSEKEEPING.

HOME CHATS WITH FARMERS' WIVES.

THE WOMAN WHO DOES NOT MARRY.
What a veritable blessing in the family is the woman who does not marry! She lightens the burdens of her married sisters, assuming without a word the care of the little nephews and nieces; she makes for them the dainty little extras which so delight the heart of a child; she sympathizes with every childish sorrow and usually is indulgent to a fault. No wonder that "Auntie" is the delight of the little folks, and fortunate indeed are the children who have such a personage in the family.

It is the unmarried sister who makes the pretty dollies and centerpieces which the woman with a family is too busy to think about as a possibility for her fingers. It is also this same sister who makes herself useful by way of repairing and making over the clothing of the other's family. The "old maid," as she was once called, is usually handy with the needle. She can trim a bonnet, too, and can help out in a good many ways, which she is always ready to do.

Time was when the unmarried woman was looked upon as possessing some decidedly unlovely attributes of character, such as being acrimonious, jealous of her more fortunate sisters who had husbands—at least they were supposed to be more fortunate for this reason—besides being so precise and prim as to make everybody uncomfortable about them. But the day has passed when to be married is the just what has brought this about it would be hard to tell, but probably the ability to earn her own living in any vocation which she may choose to height of every woman's ambition. undertake, has much to do with it. Women are now independent, and they are proving that they appreciate this. And as for the attributes which once marked the maiden lady of uncertain age, why, they are not to be found. A jollier set it would be hard to imagine than these bachelor girls of today. They are not in the least afraid of being called old maids, indeed, they seem to be proud of their single estate. Surely it is not from necessity that they are as they are—we all know that it is from choice. If there are any regrets, any longings for a home and a husband, they certainly do not find expression in words.

To many a father and mother who are getting along in years the unmarried daughter is a great helper as well as a comfort. She earns her money in her chosen vocation and delights to spend it in procuring for them the things which are not quite within the means at their command. What a joy her home-coming is. She is always sure to bring something for each of the family. The new bonnet or dress, the wrap or pair of gloves for mother, who was making her old ones "do" for a while longer. The overcoat for father—his old one was beginning to look shabby, but he felt that he could not afford a new one this year. At Christmas perhaps it is a new set of dishes or an easy chair, perhaps a subscription for a favorite magazine or news-

paper, but it is sure to be something. Then she is out in the world and sees how people dress and is always authority on such matters. She "fixes" mother's hair so it will make her look younger; trims father's beard to a more approved pattern; shows her younger sisters how to arrange ribbons and bows, and ties the boys' cravats after the newest mode.

Do you say that this is more than a girl can do for her family unless she gets more than average wages?

I reply that all these presents, and others, too, have been purchased for the home folks, from the earnings of one young woman, and she certainly does not receive a larger salary than the average. I know of another young woman who has bought a home and paid for it out of her earnings. This she has presented to her father and mother, who thus for the first time in their lives enjoy the luxury of living in their own house. This girl receives a salary considerably above the average, it is true.

I would not depreciate the value of a good son to his parents. There are many who do all in their power for their parents, maintaining them entirely, yet I can but see that in a great majority of cases it is the unmarried daughter who is really the main stay and dependence of the parents in their declining years.

Then do not bemoan your fate, as do some parents of whom I know, if your boys are all girls. It is disappointing to want a son and have the new baby a girl every time, but the day may come when you will realize that your daughters are more to you than sons could possibly be. The old saying is very apt to be true that "A son is a son till he gets him a wife; but a daughter is a daughter all the days of her life." We know there are cases on record where sons have deserted their parents in their necessity, but never yet have I heard of an instance where a daughter was guilty of a like offense.

Blessings be on the unmarried woman. There is much that she misses, it is true, in not having a home, husband and children; yet I do not see how the world could possibly do without her. May her number never be less. And this wish is echoed, I am sure, by countless fathers and mothers, nephews and nieces, as well as by brothers and sisters in whose homes she is ever a welcome visitor.

Talk about a mother's self-sacrifice and devotion! I have seen these qualities as strongly present in the unmarried woman as in any mother. If the right spirit is there it will make itself known, whether a woman marries and has children of her own or whether she mothers some other woman's children. And it is not always children who get the benefit either.

HOW TO EDUCATE OUR CHILDREN FOR THE FARM.

Time is swiftly passing away, and we who till the soil and manage the household are alike passing with it. The places that now know us will soon know us no more. Younger hands and younger heads will soon have to manage at the helm. The question arises: "How shall we educate them for the place?"

I am simply a farmer's wife, and was born and brought up a farmer's daughter—with a love for the farm and every farm animal a very part of my existence. To instill this feeling into the heart of my boy and my girl, was my earnest endeavor. This I consider the first step toward educating them for successful life on the farm; for without a love for the occupation, it would be useless to expect them to succeed.

How I commenced I will tell you. When mere children I took them with me to the garden in the springtime, showed them the tiny plants and the naughty weeds that were crowding them out; and as we talked about them, it was but a short time until they were filled with interest. Eagerly and carefully the little hands worked to help mamma pull out the weeds, so the pretty plants could grow. As they grew older we paid them for occasional jobs they could do, and it was gratifying to see with how much more interest they worked, and how much better their tasks were performed than were those of children who were driven to their work, perhaps with an oath. With never a word of praise for well-doing, with never the slightest recompense for toil, what child would love to work?

My theory is, that to fit them for the farm and successful farm life, we must teach them to love the farm and all that pertains to it. Let them feel that the old home is the dearest spot on earth. Make it pleasant for them by furnishing plenty of interesting books and papers, music, and games, that they may not be driven elsewhere for recreation. Let the home training be, to first educate the heart, then the head, and the hands will become willing and efficient workers.

I do not think our public schools practical enough to gain the interest of the child. We read that in Germany, gardens and orchards are a part of the belongings of the school-grounds, and a portion of time each day, during the growing season, is spent there in taking practical lessons. I once read an article, written by a successful fruit grower in Wisconsin, who said that he owed his success in horticulture to lessons learned in such a school. Each pupil had his task to perform, and an experienced teacher to guide his hand. I say, let our schools do likewise; for such practical knowledge, gained by observation and experience, is worth more than many terms at school where nothing is taught but what it between the covers of books.

I never yet saw the child who would not become deeply interested in taking lessons from the great Book of Nature. Show them but a tiny seed, and explain to them how it contains a little plant and food to nourish it until it takes root in the ground and sends up its leaves above the surface, and numberless will be the questions they will ask. They not only become interested, but are enthusiastic, and their little hearts are filled with a love for the farm—which, to the lover of nature, is one grand experiment plot. So again I say, to educate our children for successful farm life, first educate the heart, then the head, and the hands will become willing and efficient workers.

Mears.

JENNIE M. WILLSON.

PLEA FOR HIRED GIRLS.

I don't think L. R. S. ever had to be a hired girl or she would see something beyond the independent part of it. To be sure, it is nice to know how you earn your money, and to have the privilege of spending it to your own liking; but that does not make a wage-earner very independent after all. There are many girls who, if they had their choice, would be in school, but are obliged to labor, not only to support themselves, but often help to support their brothers and sisters.

I have in mind four such girls that have worked in my own home since I have been a married woman, and my mind goes farther back to earlier days when girls' wages were not as good as now; when they received fifty cents a week for common labor, seventy-five cents to one dollar for spinning and sewing. They had to clothe themselves out of this and give a part to their parents. Where was their great independence?

To be sure there are places where girls do have all they earn to spend as they please or to lay by for a rainy day, or a wedding outfit, yet few are so independent but they are made to feel that they are no better than slaves by those who employ them. They need encouragement and kind words. It is not so much the wages our hired girls need, but more motherly interest shown them. While they take their places in our kitchens and do our heavy work, let us remember that our own daughters may be there some day. If we were to put ourselves in the hired girl's place I am afraid we would not find it so independent after all.

A NURSE AND EX-HIRED GIRL.

For the Michigan Farmer.

THE WOMAN WITH BABIES.

Not one baby, nor two, but she who has several small children with as yet no final period written after their number, is the subject of my talk.

She is the woman the country must depend upon to save it from foreign usurpation, and furnish its leading men and women.

She is the woman whose heart overflows with the most unselfish affection, has no time to think of herself, and wins the sweetest hugs and kisses from the purest of lovers. Her future is secure against neglect and loneliness; her life is a link between one past and many futures; those futures, as hope paints them, are all bright and full of usefulness, and yet there are times when she is very wretched.

When, with Tommy just beginning

school; Dick still too young to dress himself; and Harry learning to walk, she must make up her mind to pass through all the dreadfulness again, and add another baby to the group.

She knows how bad all her "folks" will feel about it; how other people will laugh and make remarks; that she must give up a lot of pleasant plans, and, most of all, turn off that darling little tot and teach him to be a child long before he has ceased to be a baby.

No wonder she looks ahead with a dread and a heartache no man can ever know, and, if she has the chance, goes by herself to cry out her sad thoughts.

She is weak in both body and mind. The extra demand upon her organization is apt to leave the brain supply deficient and now, if ever, she needs the comfort of the right kind of a word, the prop of a loving, strong will to rest against.

But, the chances are she will receive something very different. In story books the cool water always comes in time to save the fainting soul; but in her case, the round-souled, broad-minded woman, who has passed through similar trials and can brace her up with cheering words and sympathy, telling her how, at best, or worst, these days will soon be past, and if she only takes them aright all her troubles will prove blessings, and bring her a rich reward for every sacrifice, often fails to appear, while in her stead comes one who, if fittingly attired, would wear the garb of an evil spirit, for such she is. "She hisses out that she 'would never stand it to have so many young ones!'" "People don't, now-a-days. They are smarter than they used to be."

Then her scorpion tongue whispers black secrets and adds: "Such a one and such a one did it, and they are all right." No mention of the many cases wherein those things became suicide. No story is told of the awful remorse and self-reproach of those last moments when the mother realized what she had done.

She does not picture the ghastly atmosphere over all, and the feeling of guilt which torments the family in spite of the long name the physician has given them under which to cloak the deed. Nor does she remind her of the thousand who survive this legal crime to drag through years of invalidism. The Hindoo mother who casts her child into the Ganges commits no more of a moral crime than an abortionist, while she escapes the physical results which render so many women miserable.

The woman with babies feels herself sadly out of fashion. So she is, but within her hand lies a power for good influence which will reach through ages. How many of us, looking back over much of life, know that the child we felt worst about, has proved our greatest blessing; and know, too, that there are times when no matter how strong and self-sufficient we consider ourselves, we need the cheer of some sister-woman to help us take the right path.

Let us bear this in mind and take care that it is not our hand, nor our word that pushes some woman over the precipice upon whose brink she stands.

Thomas.

A. H. J.

FROM THE FAR WEST.

Dear Sisters of the Household:—I suppose I ought to be in my berry patch picking raspberries (I have put up 13 gallons and not near all picked yet), but for the fact that I cannot leave my baby. My little daughter that acts as nurse maid is taking a nap, so the berries must wait, and in the meantime I will write my letter. Even now I have my foot on the rocker putting my baby to sleep.

It is very warm to-day; the men are busy hauling in their hay. This has been a splendid summer for grain, we have had so much rain, and the crops never looked better in consequence.

The editor's letter about style, puts me in mind of my experience since I have been on the farm, trying to keep up a little with the changing styles. It is very provoking to make over a good dress and think you are all right for a while at least, when, lo, and behold, Dame Fashion says it must go, and there you are! I have made over a black silk and cashmere each twice, and now the style must change again.

The little children of the East would be delighted with the wild flowers we have here in Washington. The sides of the roads are lined with them—all sizes, shapes and colors. One of the most beautiful ones is the tall

purple hyacinth, all shades from lavender to darkest purple. Our summers here are longer than in the East, at least so it seems to me, for we have some of our nicest weather in October and November.

I have traveled around the world a good deal. I came across the Atlantic with my parents in '80 from England. I lived for several years within 20 miles of Niagara Falls and visited them frequently. Then I came across the continent, and here I am.

SISTER MARY.

Whitman Co., Wash.
(Will Sister Mary please send full name to the Household editor?)

THE TOMATO.

No vegetable is more popular at the present time than the tomato, and surely none is more justly so. With no other fruit of the garden is it possible to make such a variety of dishes, healthful and tempting. We herewith present some tested recipes for serving them. These are not all new, but are worthy of a place beside the new ones:

Tomatoes Fried.—Select firm specimens, either green or ripe, cut crosswise in slices, sprinkle with salt and pepper, dip in beaten egg, then in cracked meal, and fry in butter, browning both sides. Or, they may be dropped in boiling lard, the same as doughnuts.

Tomato Omelet.—Chop fine sufficient ripe tomatoes to make one pint. Add to them a cup of rolled crackers. Beat well four eggs and stir all together with salt and pepper to taste. Heat a frying pan with a lump of butter sufficient to grease it well. Pour in half the omelet, let brown and turn, remove to a hot platter and cook the remaining half in the same way.

Ripe Tomato Preserves.—Select rather small tomatoes, scald and remove the skins. Weigh, and add equal weight of granulated sugar, sprinkling it in layers. Let stand over night to draw out the juice. Drain, boil the syrup down half, then add the tomatoes and cook until thick. If desired, slices of lemon may be added to impart a flavor. Cook carefully, as they burn very easily.

Green Tomato Preserves.—Prepare green tomatoes by slicing (do not attempt to peel them), and add equal weight of white sugar and one lemon, sliced, to every pound of fruit. Cook till the juice is thick. A little water will be needed at first, as the green tomatoes are not juicy. Be careful not to scorch them.

Tomato Soup.—This is delicious. To one quart of stewed tomatoes rubbed through a sieve add one pint of water and let it get very hot. Season with salt and cayenne, and a little sugar, if liked. Some use corn starch or flour to thicken slightly. Just before serving add one pint of thick, sweet cream, which has been made hot over the fire. Serve with squares of toasted bread, or crisp crackers.

Tomato Ketchup.—This is Mrs. Rorer's recipe. Use half a bushel of sound August tomatoes. Wash and cut them into pieces. Cook gently for half an hour, then press through a sieve. Cook again for one hour, then add one ounce of ground ginger, one ounce of mustard, one gill of salt, half a pound of sugar, one quart of vinegar. Cook to the proper consistency, add five drops of oil of nutmeg, the same of oil of celery or a tablespoonful of celery seed. Bottle, cork and seal.

SENATOR HOAR'S BIRD PETITION.

This petition presented to the legislature of the state of Massachusetts by Senator Hoar and signed by nearly forty of our feathered friends is attracting considerable attention just now. The petition is a plea for protection of the birds and may well be introduced to the notice of other legislative bodies. Senator Hoar's novel bill representing the birds captured the House and Senate, and it was passed by both bodies and became a law before there was any chance for opposition on the part of the feather dealers, who may be expected to object to it. It is now an offense against the laws of Massachusetts to kill any song bird (and the list includes many not usually so classed), and also the use of their feathers for millinery or decorative purposes.

The Household editor has long been in favor of such a law, and has persistently refused to wear feathers which necessitated the death of a

bird upon her head. It is here requested as a personal favor that our readers will this day make a compact with themselves that they will join in the crusade against the slaughter of birds for their plumage, and have no ornament upon their hats or bonnets which represents in whole or in part a bird's life. This does not mean that we cannot wear ostrich plumes, or tips, as these are removed by clipping and do not cause the bird any pain. Surely the category of garniture for our headgear is extensive enough and comprises enough beautiful things by way of "trimming" to satisfy the most fastidious without requiring that birds give up their lives for the purpose.

E. E. R.

Miscellaneous.

THREE MEN IN A BOX.

One evening early in 1787 Molly Wingate sat nodding before the cheerful wood fire burning on the hearth in her father's house in western Massachusetts. She was alone, for her father was away on urgent business, and good old Thomas Matthews and his wife, the housekeeper, had some time before gone to bed.

Drowsing thus she did not hear a knock at the door, although it was by no means a light one. The blow which followed was indeed a thunderous one, and brought the pretty colonial maiden to her feet with a bound.

As she opened the door and peered out, a gruff voice said:

"You will pardon us for disturbing honest people at this time of the night, but we are traveling in this vicinity, and, darkness coming on, we made bold to try whether or not you could spare us a room till morning. We are three in number, and we are by no means particular where you put us. The most retired place in the house will best suit us, and we will promise to make you no further trouble."

Looking out upon them as the light of the candle she held in her hand brought them out of the shadows, Molly saw that the men were spattered from head to foot with mud, as if they had been riding hard. It had rained all day, and the roads were heavy.

"Your horses are—"

"We are on foot, miss," interrupted the spokesman, as if disturbed by the sharp eyes of the maiden.

For a moment Molly hesitated. "I hardly know. The night is dark. Come in. We will see."

No one could say that Molly Wingate was a coward. If she had been timid, her tongue would not have betrayed a single sign of fear.

While Molly brought out another candle and lighted it, the strangers warmed themselves at the fireplace. After their hard day's jaunt, they were wet and uncomfortable. Refreshed by these few minutes before the blazing hickory, they followed Molly with rather more cheerful faces.

Up the broad stairway the strangers followed their guide, who led them along a long hallway connecting the front chambers with the more distant part of the house. As they passed an open door, one of the men halted and said:

"Why should not this be a good place for us? We are not particular."

"But that is only an old storeroom, more than half full of empty boxes and rubbish," Molly hastened to say. "You would not be comfortable there."

"Just the place," went on one of the other travelers. "No one would ever think—"

"Sh!" same in a warning undertone from him who had hitherto done most of the talking. Then turning to Molly, he said hurriedly, as if anxious to make her forget the unguarded words of his companion: "Indeed, we would just as soon be in this room as anywhere. We do not want to go into any room where our wet clothes and muddy boots might soil your floors. This is as good as we could possibly ask."

"But there are no beds here."

"So much the better. We are tired, and will sleep soundly on the bare floor."

Thus urged, Molly led the way into the dingy storeroom. Great boxes and casks hedged the way, and it was with difficulty that they made their passage into the place. A hundred spiderwebs hung from the smoky rafters, and Molly once more made bold to urge her visitors to take some more comfortable room. But they were firmly set against this plan, and she at last set the candle on one of the boxes and turned away.

"Good-night, miss," came from one of the party. "We are sorry to trouble

you, but— Excuse me, did you ever hear of Daniel Shays?"

"Daniel Shays," repeated the maiden, surprised at having her mind so abruptly turned in a direction so entirely different from that it had so recently been pursuing. "Oh, yes, sir! We hear much about him of late. My father is even now away leading a company against him and his shameless men. If the truth comes to us, Daniel Shays will soon be where he deserves to be."

"You think, then, that he is in the wrong?"

"In the wrong! Why not?" was Molly's spirited reply. "He is a rebel against the lawful government, and ought to be punished."

"But think of the provocation. Outrageous salaries, aristocratic ways among our senators, extortionate fees demanded by lawyers, and grievous taxes. Indeed, there is much in all these to warrant this rebellion, as you call it."

"There are better ways to change all this if it is wrong. No man has the right to take it upon himself to force those in authority over him to think as he does. Do you think Daniel Shays is right?" she demanded, with flashing eyes.

"Well, we are divided on that point," was the reply. "As we were coming along we were discussing the question, and some of us are coming to think—"

"You forget that you had said good night," broke in one who had hitherto not spoken. "It is late, and we are tired."

"We may speak of this further in the morning," was Molly's parting word as she went down the long hallway in the dark. A true and loyal heart beat in Molly's bosom. It meant much to her that the laws of her native colony should be assailed as Daniel Shays had done. Had there been need, no one can doubt that she would have followed her brave father in pursuit of that fearless rebel.

Sitting once more by the fire in the old kitchen, Molly's thoughts at first went out to her father. She supposed him to be in the near neighborhood, for Daniel Shays and the men who were following him had been put to flight and even then were being hotly pursued by the indignant law-abiding colonists. As she mused over this and the words of those who had sought shelter under her father's roof that night, all at once a thought came to her which for a moment sent the blood flying through her veins.

Who were the men she had just hidden away in the old storeroom upstairs? Why were they abroad at such an hour of the night? How could their garments have become so bespattered with mud if not by long and sharp riding on horses?

"If I knew they were fugitives from Shays' army—"

Well, what then? Every moment the conviction became stronger that she had guessed aright, and that at this very moment three of the rebels she hated so much were in the room overhead. If so, they should escape no further!

It was but fair that she should know whether her suspicions were well founded or not; and with quickly beating heart she crept up the stairs and along the hallway in the dark until she could listen at the opening to the storeroom. No door had ever been swung at that room, and she had no difficulty in hearing from within the low voices of the strangers. Not long had she to wait before she learned enough to convince her that she was right. Three of Daniel Shays' men had taken refuge from pursuit in her father's house.

Quickly Molly laid a plan for their capture. Thomas and his wife were too old to be of much active service, but they might take some part in Molly's campaign; and she was not long in awakening them, and bringing them down into the kitchen, where they listened with wondering expression to the plans of their young mistress.

A little while afterward there went up to the ears of the restless fugitives in the store room a strange din as if of many voices, now here, now there, all about the house, mingled with the tramp of horses in various parts of the yard. Orders were given in a stern voice, as if a commander were giving orders to a strong force of men, stationing them around the building. Soon

hurried steps came along the hallway, and Molly appeared at the door with a flaring candle in her hand.

"Are you awake?" she asked, sharply. "Up, quick! the house is besieged by horsemen. They must seek you. I know not for what other purpose they came."

More speedily than can be told the fugitives sprang from their hiding places among the boxes, and came toward the maiden.

"Are you sure we will be discovered here? This room seems secure from search."

"No; do not so flatter yourself. My father himself may be here before morning, and he knows the whole house. But I have a plan which may prove good. See! here is a great box. It is large enough to hold you all. Get into it, and I will put the cover over you, and arrange it in such a way that no one would dream that it had been opened for years."

"We are placing ourselves wholly in your power. You surely would not—"

"Quick! I say, or I will not answer for the consequences," was Molly's only reply, and the strangers crowded their stalwart frames into the box pointed out by the maiden.

With a few rapid blows Molly nailed the cover firmly in its place, and then piled on the top of it smaller boxes as high above her head as she could reach.

Then out into the night went the brave girl to arouse help in the settlement two miles away, leaving old Thomas and his wife to keep up their march around the beleaguered house until her return; and when the morning's sun shone the captive men who had risked their fortunes on the wrong side of Daniel Shays' rebellion, came out of their box to be handed by Molly to the authorities they had so shamelessly defied.—Harper's Young People.

When one's hair becomes "sour," as heavy hair frequently does in hot weather, wash it and the scalp well with borax water, one tablespoonful to a quart.

NERVOUS FRUSTRATION.

A New Jersey Woman Expresses Her Gratitude to Mrs. Pinkham for Relief.

"Will you kindly allow me," writes Miss Mary E. Saidt to Mrs. Pinkham, "the pleasure of expressing my gratitude for the wonderful relief I have experienced by taking your Compound? I suffered for a long time with nervous

prostration and general debility, caused by falling of the womb. It seemed as though my back would never stop aching. I could not sleep. I had dull headaches. I was weary all the time, and life was a burden to me. I sought the seashore for relief, but all in vain. On my return I resolved to give your

medicine a trial. I took two bottles and was cured. I can cheerfully state, if more ladies would only give your medicine a fair trial they would bless the day they saw the advertisement, and there would be happier homes." "I mean to do all I can for you in the future. I have you alone to thank for my recovery, for which I am very grateful."

—MISS MARY E. SAIDT, Jobstown, N. J.

Live Young Men and Women

are writing us that they are preparing to enter the Agricultural College next term Sept. 13th.

ARE YOU NOT COMING ALSO?

Apply for room, etc., to J. L. SNYDER, President, AGRICULTURAL COLLEGE, MICH.

TEACHERS WANTED!

Over 4,000 vacancies—several times as many vacancies as members. Must have members. Several plans; two plans give free registration; one plan GUARANTEES positions. 10 cents pays for book, containing plans and a \$500.00 love story of College days. No charge to employers for recommending teachers. Southern Teachers' Bureau, (Rev. Dr. O. M. Sutton, A. M.), Sutton Teachers' Bureau, S. W. Cor. Main & 3d Sts., Louisville Ky. President and Manager. 180-71 Dearborn St., Chicago, Ill. Northern vacancies Chicago office. Southern vacancies Louisville Office. One fee registers in both offices.

Legal Department.

CONDUCTED BY EARL D. BABST,
55 Moffat Building, Detroit.

Damage to Bicycle Caused by Carelessness—Recovery.—W. E., Elletts, Mich.—If A had a bicycle standing beside his own building and B, through carelessness, backed a wagon against it and broke it, could A compel B to pay for it?—Yes.

Fruit Includes Produce of Timber Trees.—S. A. E., Branch County, Mich.—I have a farm on the shores; the agreement gives me one-half of all the fruit on the farm. Am I entitled to nuts of the forest?—Yes. The word "fruit" in legal acceptance is not confined to the produce of those trees which, in popular language, are called fruit trees, but applies to produce not only of the orchard, but of timber trees.

Duties of Highway Commissioner—Compensation—Cannot Vote on Appeals in Which He Is Interested.—H. H., Plymouth, Mich.—1. Is the highway commissioner required to attend the meetings of the township board except the days required to make out road warrants?—No, except in cases of appeal from award of commissioner to the board. However, the board itself may require his presence by special request, and as they audit his per diem allowance, would undoubtedly allow him the statutory fees. 2. If he is required to be present at the meetings, why does he not receive compensation?—He is entitled to compensation at the rate of \$1.50 per day. His account for services is audited by township board, and paid in same manner as other township expenses. See Howell's Statutes, Sec. 1428. 3. Why is the commissioner not allowed to vote on all questions at board meetings?—In the first place, he may not be a member of the board, and, if a member, is not allowed to vote on matters on which he has already passed in his capacity as commissioner. In appeals, for example.

Partition Fence—How it Affects Heirs and Successors.—A. B.—B and H join farms. B owns the south part of fence and H the north. Both die, and H's estate remains unchanged, but B's estate is divided; one heir received the land next to the line fence which B owned, and the other heir the land next to the line fence which H owned. We now want to divide the fence between H's estate and B's heir. Can B's heir, whose land joins H's part of the fence hold any of the fence which belonged to H? If so, how much? Can B's heir, whose land comes on to B's part of the fence, hold the whole of it or only a part?—The answer to both of your questions depends entirely upon the method of the original division between B and H. An assignment by fence viewers, duly filed with the township clerk, or the filed written agreement of the parties themselves constitutes an agreement binding upon the heirs and successors of the parties. In the absence of such an assignment or written agreement, the fence viewers should be called upon and asked to assign the portions for maintenance and repair, in which case the fence would be divided into four parts, the estate of H maintaining two parts and the heirs of B one each.

Barb Wire Fence—Division of Fence When Binding on Successors.—Subscriber, Haslett Park, Mich.—1. Has anyone a right to build a whole barb wire fence without the consent of the other party?—The respective occupants of lands enclosed by fences are required to keep up and maintain partition fences between their own and the next adjoining enclosures, in equal shares, so long as both parties continue to improve the same. Fences must be divided either upon complaint to two or more fence viewers of the township and their assignment of the same, or by the written agreement of the adjoining occupants, duly filed with the township clerk. Such duly filed assignment or agreement is binding upon their assigns and successors. If, after an assignment of the respective portions by the fence viewers, either fails to erect his portion of the fence, the other may erect it and recover its value by suit. If the entire fence is erected voluntarily by either party without agreement or division as above, there can be no recovery. Until such division and assignment, neither party is under any obligation to maintain any portion of such fence. 2. A and B agree to build a partition fence, A the north and

B the east portion. A builds his portion in 1894 and B has not constructed his at all. B sells to C a part of his farm opposite A's fence. Can C claim one-half of fence erected by A?—The agreement between A and B would be binding on their successors only in case it was in writing and filed with the township clerk; in which case C would not be required to repair or maintain the fence opposite A's land and bordering on him. Otherwise A has erected the fence voluntarily, but may call in the fence viewers and divide it between himself and C for purposes of repair and each will be required to keep the assigned portion in repair. In case of legal agreement A can compel B to erect the fence per agreement, or B failing to do so, he may erect it and recover its value from B.

The Markets.

WHEAT.

After a week of intense excitement the wheat market closed Thursday very near the dollar mark, and a feeling of strength in the trade which promises to bring it up to that point. The fact is the situation is a strong one for sellers, and seems to be backed up by the crop returns from every important country. The up-turn is a surprise to every one, and the best of it is it has come before farmers have parted with much of their crop.

The following table exhibits the daily closing sales of spot wheat in this market from August 1 to August 26, inclusive:

	No. 1	No. 2	No. 3
	White.	Red.	Red.
Aug. 2.....	78 1/2	78 1/2	76 1/2
" 3.....	80 1/2	80 1/2	78
" 4.....	82 1/2	82 1/2	80 1/2
" 5.....	79 1/2	79 1/2	77 1/2
" 6.....	81 1/2	81 1/2	79 1/2
" 7.....	80 1/2	80 1/2	78 1/2
" 8.....	81 1/2	81 1/2	79 1/2
" 9.....	83	83	80 1/2
" 10.....	85 1/2	85 1/2	83 1/2
" 11.....	87 1/2	87 1/2	85
" 12.....	86	86	84
" 13.....	87 1/2	87 1/2	85 1/2
" 14.....	89 1/2	89 1/2	87 1/2
" 15.....	87 1/2	87 1/2	85 1/2
" 16.....	91	91	89
" 17.....	91	91	89
" 18.....	91	91	89
" 19.....	91	91	89
" 20.....	97	97	95
" 21.....	1 02 1/2	1 02 1/2	1 00 1/2
" 22.....	99 1/2	1 00 1/2	98 1/2
" 23.....	98 1/2	98 1/2	97 1/2
" 24.....	96 1/2	97 1/2	95 1/2
" 25.....	98	98	96

The following is a record of the closing prices on the various deals in futures each day during the past week:

	Sept.	Dec.
Friday.....	96 1/2	97 1/2
Saturday.....	1 02 1/2	1 03
Monday.....	1 00	1 00
Tuesday.....	94 1/2	94 1/2
Wednesday.....	97 1/2	97 1/2
Thursday.....	97 1/2	97 1/2

The visible supply of wheat in the United States and Canada on Saturday last was 16,729,000 bu., as compared with 45,189,000 bu. at the same date a year ago. As compared with the previous week, the visible supply shows a decrease of 497,000 bu. The Chicago Tribune publishes returns from Minnesota, North Dakota and South Dakota as to the yield of wheat. An average of the returns is 13.5 bu in Minnesota, 12 bu in North Dakota and 10 bu in South Dakota. The Minneapolis Journal estimates the area at 4,500,000 acres in Minnesota, 4,200,000 acres in North Dakota and 2,900,000 acres in South Dakota. Applying the Tribune's figures to these estimates the aggregate crop in Minnesota would be 66,000,000 bu; in North Dakota, 50,000,000 bu, and in South Dakota, 29,000,000 bu, or a total of 145,000,000 bu.

A dispatch from Sioux Falls, S. D., says: "Reports from thrashing crews indicate that the big yield expected will not be realized. Wheat all over the state is of a good quality, but light. Conservative estimate places the average at 10 bu an acre, but the acreage is lighter than last year, and the prices are so much higher that the farmers of the state will realize twice as much money from their crops this season."

The Modern Miller says: "The demand for flour in the south and southeast has been good all week and prices have advanced from 20c to 60c per bbl in the various markets. Millstuffs is also in better demand at from 50c to \$1 per ton. Pacific coast did only a moderate business at 25c advance for flour and 4 1/2c advance on wheat over a week ago. The east bought rather sparingly of flour, the price keeping below wheat values. Western mills have ceased to accumulate wheat, believing that the prices current are too high."

The Manitoba official crop report estimates the total yield of wheat in Manitoba as between 21,000,000 and 22,000,000 bu. This estimate does not include the northwest territories, which will raise 6,000,000 bu. An estimate of 27,000,000 bu of wheat for this country may be regarded as reliable.

Nebraska's immense wheat crop is now about all thrashed. The quality is excellent and the yield is unprecedented, being 45,000,000 bu. It averaged 20 bu to the acre and there were in round numbers 2,250,000 acres planted in the state.

The Marche Francals says that deceptions in the wheat yield in France increase in proportion as the harvest advances and the deficit is still estimated at one-fourth to one-third compared with last year. Advances from the center and east are worse than ever and the most pessimistic reports come also from the north. In other places the yield is not yet fixed, but the scantiness of the sheaves is complained of and the grain is likely to be poor in quality.

Dollar wheat seems near at hand. A blessing to wheat raisers quite unlooked for six months ago.

DAIRY PRODUCTS.

BUTTER.

The market for prime butter is active, and at an advance in values, although the ordinary and lower grades are still slow of sale and neglected. Quotations are as follows: Creamery, 16 1/2c; fancy dairy, 13 1/2c; fair to good, 11 1/2c; low grades, 7c. The Chicago market is also higher, and there is a firm feeling on the part of buyers at the advance. Quotations there on Thursday were as follows: Creameries, extras, 18 1/2c; firsts, 17 1/2c; seconds, 13 1/2c. Dairies—Extras, 15c; firsts, 12 1/2c; seconds, 10c. Packing stock, fresh, 8c. At New York the market has made a sharp advance, and the demand has been good enough to absorb all the receipts and take a considerable amount of the stock in cold storage. Quotations in that market on Thursday were as follows: Creamery, western, extras, per lb, 19c; do firsts, 17 1/2c; do seconds, 14 1/2c; do thirds, 12 1/2c; do State, extras, 18 1/2c; do thirds to firsts, 12 1/2c; State dairy, half-firkin tubs, extras, 16 1/2c; do Welsh tubs, fancy, 15 1/2c; dairy tubs, thirds to firsts, 10 1/2c; State dairy, tins, etc., 10 1/2c; imitation creamery, fine, 13c; do seconds to firsts, 10 1/2c; factory, June extras, 11 1/2c; do firsts, 10 1/2c; do current packings, firsts, 10 1/2c; do thirds to seconds, 7 1/2c.

At the Utica Board on Monday 104 packages of creamery sold at 18 1/2c to 20c, bulk at 19c.

At Little Falls on Monday 18 packages of dairy butter sold at 14 1/2c.

CHEESE.

There has been a general advance in cheese the past week. In this market prime full cream state is now quoted at 8 1/2c, with some sales at 8 3/4c. The Chicago market has also advanced, and is reported very firm. Quotations in that market on Monday were as follows: Young Americas, 8 1/2c; twins, 8 3/4c; cheddars, 8 1/2c; Swiss, 8 1/2c; Limburger, 6 1/2c; brick, 7 1/2c. At New York, under light receipts, a good export demand and higher cables, the market has advanced, and rules very strong. Values are also higher at interior points, and the demand for small colored has placed it at a premium. Quotations in that market on Thursday were as follows: State, full cream, large, fancy, colored or white, 9 1/2c; do choice, 8 1/2c; do fair to good, 8 1/2c; do common, 7 1/2c; do small, colored, fancy, 9 1/2c; do white, 8 1/2c; do choice, 8 1/2c; do fair to good, 7 1/2c; do light skims, choice, 6 1/2c; do part skims, choice, 5 1/2c; do good to prime, 4 1/2c; do common to fair, 3 1/2c; full skims, 2 1/2c.

At the Utica Board on Monday 8,601 boxes were sold at a range of 8 1/2c to 9 1/2c; the previous week 7,729 boxes were sold at a range of 7 1/2c to 8 1/2c; and on the same day a year ago 7,702 boxes were sold at an average price of 7 1/2c.

At Little Falls on Monday 5,818 boxes were sold at a range of 8 1/2c to 8 3/4c. The previous week 6,678 boxes were sold at a range of 7 1/2c to 8 1/2c.

At Liverpool on Thursday the finest white and colored American cheese sold at 44s per cwt; the previous week quotations were 42s; showing an advance of 2s per cwt since our last report. Market quoted firm at the advance.

DETROIT PRODUCE MARKET.

Detroit, August 26, 1897.

FLOUR—Quotations on jobbers lots in barrels are as follows:

Straights.....	\$5.40
Clears.....	5.15
Patent Michigan.....	5.90
Low grade.....	4.15
Rye.....	3.50

CORN—No 2, 32 1/2c; No 3, 32c; No 2 yellow, 34 1/2c; No 3 yellow, 34c.

OATS—No 2 white, 22 1/2c; No 3 white, 21 1/2c; light mixed, 22c per bu.

RYE—No 2 selling at 52 1/2c per bu; No 3 quoted at 50c.

CLOVERSEED—October delivery is selling at 43 1/2c per bu.

FEED—Bran and coarse middlings, 10c; fine middlings, 12c; corn and oat chop, 12c; cracked corn, 11c; coarse cornmeal, 12c per ton in jobbing lots.

BUTTER—Quoted as follows: Creamery, 16 1/2c; choice dairy, 13 1/2c; fair to good dairy, 11 1/2c; ordinary grades, 6 1/2c per lb.

EGGS—Regular receipts, 13 1/2c per doz.

BEANS—City hand-picked, \$1.05 per bu in car lots; unpicked, 60 1/2c per bu.

POULTRY—Live fowls, 8c; spring chickens, 10c; ducks, 7 1/2c; turkeys, 8c per lb.

PEARS—Common, 75 1/2c per bu; Bartlett, 1 1/2c per bu.

PEACHES—Michigan, 1 1/2c to 1 1/2c per bu; Missouri, Elbertas, 2c per 6-basket carrier.

MELONS—Watermelons, 1 1/2c per 100; Osage, 90c per crate; gems, 35 1/2c per basket.

PLUMS—Lombards and green gages, 1 1/2c to 1 1/2c per bu.

GRAPES—Concord and Niagara, 20 1/2c per lb.

HUCKLEBERRIES—22 1/2c per bu.

CABBAGES—Quoted at 85c per bbl crate.

DRIED FRUITS—Evaporated apples, 4 1/2c; evaporated peaches, 7 1/2c; dried apples, 3c per lb.

HONEY—Quoted at 10 1/2c in sections for white, and 9 1/2c for dark comb; extracted, 5 1/2c per lb.

PROVISIONS—Mess pork, \$9.50 per bbl; short cut mess, \$10.50; short clear, \$10; compound lard, 4 1/2c; family lard, 5c; kettle lard, 5 1/2c; smoked hams, 9 1/2c; bacon, 8c; shoulders, 6 1/2c; picnic hams, 7 1/2c; extra mess beef, 7 1/2c; plate beef, 8 1/2c.

COFFEE—City prices are as follows: Rio, roasting, 15c; fair, 16c; good, 18 1/2c; prime, 20c; choice, 22 1/2c; fancy, 24c; Maracaibo, roasted, 25c; Santos, roasted, 24c; Mocha, roasted, 29c; Java, 29c.

HARDWARE—Wire nails, \$1.50; steel cut nails, \$1.50 per cwt, new card; axes, single bit bronze, 55c; double bit, bronze, 55c; single bit, solid steel, 55c; double bit, solid steel, 55c per doz; bar iron, \$1.40; carriage bolts, 75 per cent off list; tire bolts, 70 and 10 per cent off list; painted bar wire, \$1.60; galvanized do, \$1.90 per cwt; single and double strength glass, 60 and 20 per cent off list; sheet iron, No 24, \$2.50 per cwt; galvanized, 75 and 10 per

cent off list; No 1 annealed wire, \$1.40 rates.

OILS—Raw linseed, 42c; boiled linseed, 44c per gal, less 1 c for cash in ten days; extra lard oil, 40c; No 1 lard oil, 31c; water white kerosene, 8 1/4c; fancy grade, 11 1/2c; deodorized stove gasoline, 7 1/2c; turpentine, 35c per gal in bbl lots; in less quantities, 40 1/2c.

HAY—Best timothy in car lots, \$8.50 per ton; rye straw, \$5.50; wheat and oat straw, \$4.50 per ton.

HIDES—No 1 green, 6c; No 1 cured, 7c; No 2 green, 5c; No 2 cured, 6c; No 1 cured calf, 8c; No 2 cured calf, 6 1/2c; No 1 green calf, 8c; No 2 green calf, 6 1/2c per lb; sheepskins, 60 1/2c each.

WOOL—Unwashed fine, 13 1/2c to 14 1/2c; unwashed medium, 17 1/2c; washed fine, 17 1/2c; washed medium, 21 1/2c per lb.

DETROIT LIVE STOCK MARKET.

Michigan Central Stock Yards.

Detroit, Mich., August 26, 1897.

CATTLE.

Thursday's receipts of cattle numbered 1,352 head; thorough and direct to butchers, 459; on sale, 895, as compared with 518 one week ago. There is no change to note in quality. Trade opened active; stockers strong to shade higher, others steady to strong. All sold, closing firm. \$4.25 was high for 3 steers av 950 lbs, but the bulk changed hands at prices ranging from \$3.00 to \$4.00; old cows and common to fair butchers, \$2.10 to \$3.00; bulls, fair to good, \$2.65 to \$3.25; stockers, \$3.25 to \$3.85; feeders, \$3.00 to \$4.00. Veal calves—Receipts, 82; one week ago, 104; active at \$5.25 to \$6.00 per 100 lbs. Milch cows and springers unchanged, sales mostly \$30.00 to \$40.00 each; choice fresh cows would bring \$5.00 to \$10.00 more; very few here.

Roe & Holmes sold Holmes 10 stockers av 573 at \$3.50, 9 do av 559 at \$3.50 and 3 mixed av 570 at \$3.00.

Glenn sold Mich Beef Co 14 fat cows av 1,030 at \$3.20 and 1 do weighing 1,020 at \$2.75.

George Spencer sold Black a bull weighing 900 at \$2.30.

Sharp sold Caplis & Co 4 mixed butchers av 804 at \$3.65.

Fellows sold Black 2 fat cows av 1,020 at \$3.75, 1 do weighing 1,290 at \$3.50 and 7 heifers av 907 at \$4.00.

Kelsey sold Fitzpatrick 3 steers and heifers av 1,006 at \$3.75 and 4 fat cows av 907 at \$3.15.

Sharp sold Mich Beef Co 3 fat oxen av 1,623 at \$3.25.

Ackley sold Sullivan 2 stockers av 775 at \$3.35, 7 fat cows to Black av 1,097 at \$3.35 and 1 do to Magee weighing 1,030 at \$2.75.

Vanbuskirk sold Schleicher 9 mixed butchers av 600 at \$3.50 and 2 fat cows av 1,085 at \$3.25, also a bull to Magee weighing 1,120 at \$2.80.

Seely sold Mich Beef Co 3 bulls av 956 at \$2.80, 4 mixed butchers av 825 at \$3.30 and 6 common cows av 913 at \$2.10.

E N Sweet sold Mich Beef Co 34 stockers av 542 at \$3.50 and 2 fat cows to Caplis & Co av 960 at \$3.00.

Roe & Holmes sold Holmes 3 stockers av 546 at \$3.50.

J Stephens sold Mich Beef Co 2 steers av 935 at \$4.00, 20 steers and heifers av 601 at \$3.85 and 6 fat cows av 1,036 at \$3.10.

Blair sold Regan 8 mixed butchers av 600 at \$3.00.

Thompson sold Caplis & Co 2 stockers av 630 at \$3.50, a fat heifer weighing 990 at \$4.10 and 2 fat sausage bulls av 1,005 at \$2.85.

Mayers sold Sullivan 5 steers and heifers av 816 at \$3.90.

Robb sold Caplis & Co 9 steers and heifers av 903 at \$3.75 and 6 fat cows av 1,011 at \$3.10.

Clark & B sold Mich Beef Co 10 mixed butchers and stockers av 638 at \$3.60 and 4 cows av 807 at \$3.00.

Roe & Holmes sold Holmes 9 stockers av 596 at \$3.50 and a bull weighing 540 at \$3.00, 4 mixed butchers to Kammen av 805 at \$3.50, 3 do av 836 at \$3.00 and a bull weighing 640 at \$2.50.

Sharp sold Mich Beef Co 3 steers av 776 at \$3.65.

Burden sold same 3 bulls av 700 at \$2.75, 5 fat cows av 1,000 at \$3.00 and 14 steers and heifers av 771 at \$3.75.

Ansty sold Bussell a fat heifer weighing 1,040 at \$4.00 and 2 mixed butchers av 945 at \$3.60.

Roe & Holmes sold Bussell 10 mixed butchers av 858 at \$3.75, 10 steers and heifers to Robinson av 900 at \$4.10 and 2 cows av 1,050 at \$2.75, to Mich Beef Co 15 stockers av 590 at \$3.85 and 9 common mixed butchers to June av 740 at \$2.65.

Joe McMullen sold Mich Beef Co a fat bull weighing 1,380 at \$3.25 and 7 steers and heifers av 550 at \$3.75.

Kline sold Cook & Fry 13 steers and heifers av 700 at \$3.75 and 3 fat cows av 996 at \$3.25, 2 bulls to Sullivan av 865 at \$2.85 and a cow to Magee weighing 1,300 at \$2.35.

Roe & Holmes sold Waterman 7 stockers av 465 at \$3.00 and a bull to Robinson weighing 750 at \$3.00.

Rook sold Caplis & Co 3 fat cows av 1,236 at \$3.35, 5 steers av 916 at \$4.00 and a bull weighing 1,090 at \$3.00.

Stoll sold Sullivan 3 steers av 1,006 at \$4.00, 5 fat cows to Black av 1,052 at \$3.50 and 1 weighing 1,040 at \$2.50.

Weeks sold Waterman 7 stockers av 610 at \$3.25.

Spicer & M sold Stahelin 21 stockers av 579 at \$3.50 and 2 cows to Magee av 1,090 at \$2.75.

Roe & Holmes sold Palmer 11 stockers av 512 at \$3.50, 17 do to Sullivan av 473 at \$3.50 and 2 av 380 at \$2.75.

Weeks sold Mich Beef Co 12 steers av 944 at \$4.00, 3 stockers av 533 at \$3.50 and 3 common butchers av 633 at \$2.85.

Kelsey sold Wilson 2 feeders av 1,060 at \$3.90.

Dennis sold Black 7 steers and heifers av 775 at \$3.75, 2 common butcher cows av 1,040 at \$2.50 and 3 fat cows av 1,063 at \$3.25.

Pinkney sold Mich Beef Co 5 heifers av 786 at \$3.50, 2 steers av 890 at \$3.75 and 3 mixed butchers av 1,116 at \$3.25.

Sprague sold Mason 9 mixed butchers av 881 at \$3.40.

Beach sold Marx 11 mixed butchers av 785 at \$3.25.

Roulston sold Mich Beef Co 6 fat cows av 963 at \$3.00 and 25 stockers av 650 at \$3.65.

Spicer & Merritt sold Mich Beef Co 3 steers av 960 at \$4.25, 19 stockers av 581 at \$3.50, 17 do av 509 at \$3.50 and 3 bulls av 590 at \$2.70.

SHEEP AND LAMBS.

Receipts Thursday, 687; as compared with 837 one week ago. Market active; lambs sold 15¢@20¢, and good mixed lots 10¢@15¢ higher than prices paid last Friday. Range of prices: Lambs, \$4.75@5.25; good mixed lots, \$4.35@4.85; fair to good mixed butchers, \$3.25@4.25.

Thompson sold McIntyre 13 av 83 at \$3.75. Smith sold Downs 18 lambs av 86 at \$5.00. Henderson sold Sullivan Beef Co 13 mixed av 68 at \$4.00.

Oversmith sold Mich Beef Co 24 mixed av 97 at \$4.50. Weeks sold Young 34 lambs av 70 at \$5.15. Clark & B sold Downs 39 lambs av 63 at \$5.00.

Ansty sold Fitzpatrick 110 lambs av 55 at \$5.25. Spicer & Merritt sold Downs 26 mixed av 98 at \$4.85.

Patrick & P sold Mich Beef Co 30 lambs av 69 at \$5.00. Roe & Holmes sold Downs 53 lambs av 67 at \$4.75.

Pinkney sold Hammond, S & Co 23 lambs av 68 at \$4.65. Horne sold Monaghan 77 lambs av 65 at \$4.50.

Ansty sold Fitzpatrick 11 mixed av 55 at \$4.00. Roe & Holmes sold Robinson 15 mixed av 96 at \$4.25.

Burden sold Fitzpatrick 18 mixed av 73 at \$3.25. Pakes sold Downs 40 lambs av 63 at \$5.10.

HOGS.

Receipts Thursday, 3,250; from the west direct to packers, 707; on sale, 2,543, as compared to 1,890 one week ago. Market active and 10 to 15¢ higher than last Friday's closing. Range of prices: \$4.12½ to \$4.17½, mostly \$4.15. One bunch of very choice, av 208 lbs, brought equal to \$4.20. Stags, 1-3 off; roughs, \$3.35 to \$3.50; pigs, \$4.00 to \$4.25; heavy, \$3.70 to \$4.10.

VanBuskirk sold Sullivan 35 av 191 at \$4.17½. Oversmith sold same 115 av 208 at \$4.20.

Fellows sold same 28 av 206 at \$4.15. Patrick & P sold same 31 av 275 at \$3.70. Roe & Holmes sold same 43 av 165 at \$4.17½.

Charlton sold same 61 av 190 at \$4.15. Spencer sold same 73 av 202 at \$4.17½. Smith sold same 47 av 236 at \$4.12½.

Bartholomew sold R. S. Webb 64 av 230 at \$4.15. Clark & B sold same 30 av 225 at \$4.15.

Harger sold same 49 av 247 at \$4.15. Weeks sold same 28 av 190 at \$4.15.

Osmus sold same 15 av 163 at \$4.15. Purdy Bros sold same 54 av 217 at \$4.15.

Thompson sold Parker, Webb & Co 65 av 192 at \$4.15. Sprague sold same 52 av 208 at \$4.15.

Pinkney sold same 38 av 201 at \$4.15. Kelsey sold same 47 av 191 at \$4.15.

Ansty sold same 27 av 174 at \$4.15. Burden sold same 72 av 181 at \$4.15.

Stoll sold same 40 av 204 at \$4.15. Spicer & M sold same 12 av 149, 14 av 242, 87 av 182 and 91 av 199 all at \$4.15.

Dennis sold same 66 av 215 and 84 av 234 at \$4.15. Beach sold same 48 av 191 at \$4.15.

Robb sold same 30 av 214 at \$4.15. Smith sold same 62 av 215 at \$4.15 and 34 av 111 at \$4.10.

Ackley sold same 51 av 211 at \$4.15. Glenn sold Hammond, S & Co 115 av 225 at \$4.15.

Stephens sold same 46 av 226 at \$4.15. Magee sold same 46 av 228 at \$4.15.

Roe & Holmes sold same 10 av 224 and 53 av 213 at \$4.15. Pakes sold same 38 av 201 at \$4.15.

Joe McMullen sold same 52 av 215 at \$4.15. E. N. Sweet sold same 8 av 290 at \$4.10.

McHugh sold same 83 av 233 at \$4.15. Roe & Holmes sold same 37 av 206 at \$4.15, and 90 av 207 at \$4.12½.

OUR BUFFALO LETTER.

East Buffalo, August 26, 1897.

Cattle.—Receipts of cattle on Monday last week were, 6,666, as compared with 6,116 the same day the previous week, and shipments were 5,104 as compared with 4,246 for the same day the previous week. The market opened active Monday at an advance of 10¢@20¢ on desirable fat grades and all others steady to firm. Milch cows and all others steady; veal calves, milow and generally lower. Since Monday there have been no important changes in the market, and at the close on Monday quotations were as follows: Export and Shipping Steers.—Prime to extra choice finished steers 1250 to 1400 lbs., \$5.00@5.20; prime to choice steers 1200 to 1400 lbs., \$4.90@5.00; good to choice fat steers 1200 to 1400, \$4.75@4.85; good to choice fat smooth steers 1100 to 1200 lbs., \$4.50@4.65; green coarse and rough fat steers, 1000 to 1350 lbs., \$3.75@4.40. Butchers Native Cattle.—Fat smooth dry fed steers 1050 to 1150 lbs., \$4.40@4.70; fat smooth dry fed light steers 900 to 1000 lbs., \$4.20@4.40; green steers thin to half fattened 1000 to 1400 lbs., \$3.60@4.15; fair to good steers 900 to 1000 lbs., \$3.75@4.10; Texas steers, \$3.60@4.10; choice smooth fat heifers, \$4.40@4.50; fair to good fat heifers, \$3.35@3.75; light thin half-fed heifers, \$3.00@3.30. Native Stockers, Feeders, Bulls and Oxen.—Feeding steers good style weight and quality, \$3.75@4.15; feeding steers, common to only fair, \$3.40@3.60; good quality yearling stock steers, \$3.90@4.25; stock heifers, common to choice, \$3.00@3.50; stock steers, cull grades and throw outs, \$3.00@3.15; export weight bulls, fat and smooth, \$3.50@4.00; good fat smooth butchers' bulls, \$3.40@3.65; fair to good sausage bulls, \$2.85@3.25; thin old and common bulls, \$2.65@2.75; stock bulls, \$2.50@3.00; fat smooth young oxen, to good lots fit for export, \$4.40@4.65; fair to fairly good partly fattened young oxen, \$3.75@4.25; old common and poor oxen, \$2.25@3.50; good smooth well fattened butcher cows, \$3.60@4.00; fair to good butcher cows, \$3.00@3.50; common old cows, \$2.50@2.85.

Milch Cows.—Milkers strictly fancy, \$45.00@50.00; milkers good to choice, \$35.00@44.00; milkers fair to good, \$28.00@34.00; milkers poor to fair, \$18.00@25.00; springers strictly fancy, \$44.00@50.00; springers fair to good quality, \$32.00@45.00; common milkers and springers, \$14.00@25.00; old rimmer cows, \$8.00@12.00. Veal Calves.—Veals prime to extra, \$6.25@6.50; veals good to choice, \$6.00@6.25; veal calves common to fair, \$5.00@5.75; heavy fed and buttermilk calves as to quality, \$2.75@4.50.

On Thursday receipts were light, only two cars. Market very firm for good grades, others steady.

Sheep and Lambs.—Receipts, Monday were 11,900 as compared with 12,400 the previous Monday; shipments were 7,400 as compared with 8,000 same day the previous week. The market on Monday was active for good lambs at an advance of 10¢, with other grades steady. Sheep were about steady on prime lots, but rather easy on others; heavy sheep were very slow of sale. Since Monday the market has improved, especially on lambs and yearlings, while sheep have become firmer. Quotations in that market on Wednesday were as follows: Native Yearling Lambs.—Good to choice, \$4.35@4.60; fair to good, \$5 to 70 lbs., \$3.75@4.15; common to good culls, \$3.00@3.50; export yearlings 95 to 110 lbs., \$4.00@4.25. Spring Lambs.—Choice to fancy 75 to 80 lbs., \$5.50@5.65; fair to good, \$5.00@5.25; culls and common, \$3.75@4.75. Native Sheep.—Prime to fancy wethers, \$4.25@4.30; good to choice handy sheep, \$3.90@4.00; common to fair, \$3.50@3.80; culls and common, \$2.50@3.25; good to extra heavy export clipped mixed sheep to prime wethers quotable, \$3.55@4.25.

The market on Thursday was steadier for lambs, but easier for sheep. Top lambs sold at \$5.50@5.75; top sheep, mixed, \$3.75@4.00; wethers, \$4.15@4.25.

Hogs.—Receipts of hogs on Monday last were 18,800 as compared with 20,250 for the same day the previous week; and shipments were 10,160 as compared with 15,180 for the same day the previous week. The market was fairly active and firm for good grades, and steady for others. Quality not as good as usual, a good many being grassers; Michigan sent a large number of these. Since Monday values on good hogs have advanced, and on Wednesday closed at the following range: Good to choice Yorkers 160 to 175 lbs., \$4.50; light Yorkers 125 to 150 lbs., \$4.50@4.55; mixed packers' grades, \$4.40@4.50; medium weights 210 to 240 lbs., \$4.40@4.45; heavy hogs 250 to 300 lbs., \$4.30@4.40; roughs, common to good, \$3.50@3.80; stags, common to choice, \$3.00@3.50; pigs, good to choice, \$4.45@4.55; pigs, skips, common to fair, \$4.25@4.40.

On Thursday the market opened easy, but closed higher. The range of prices at the close was as follows: Yorkers, \$4.50; mixed, \$4.40@4.50; mediums, \$4.40; roughs, \$3.50@3.75.

CHICAGO.

Union Stock Yards, Aug. 26, 1897.

Cattle.—Receipts for last week were 57,781 head, as compared with 49,807 the previous week, and 57,469 for the corresponding week in 1896. Up to and including Wednesday of this week receipts have been 42,157 head, as compared with 39,238 for the same days last week. Receipts showed a decrease on Monday, and this helped the market, and prices were about on a level of last Thursday's. The range on steers was from \$3.20 to \$5.45; on heifers, \$3.50@4.25; cows, \$2.25@4.00; bulls, \$2.75@3.50. Since Monday values have ruled stronger, although the class of cattle is not as good as usual, and on Wednesday some ordinary lots showed a decline. On that day steers ranged from \$4.00@4.50; heifers, \$3.60@4.75; cows, \$2.40@4.15; stockers, \$3.00@4.20; veal calves, \$4.00@6.50.

Receipts of cattle on Thursday estimated at 13,500; market steady for good cattle, but a shade lower on common grades. Steers sold up to \$5.40, and heifers to \$4.50.

Sheep and Lambs.—Receipts last week were 98,322, as compared with 11,885 for the previous week, and 79,297 for the corresponding week in 1896. Up to and including Wednesday of this week receipts have been 59,115, as compared with 57,276 for the same days last week. On Monday trade was active and prices steady as compared with the close of last week. Common native sheep, mottled old ewes, \$3.50@3.75; something better, \$4.00@4.25; prime western muttons, \$3.80@3.65; western feeders sold at \$3.40 for ewes, \$3.50@3.60 for wethers, and \$3.50 for feeding lambs. The ordinary run of western lambs for market purposes sold at \$4.60@4.65; common native spring lambs, \$4.00@4.50; top, closely assorted spring native lambs, \$5.10@5.20, one lot at \$5.35. Since Monday the market has been active and firm, with but little change. On Wednesday heavy mutton westerns sold at \$3.50@3.65 and the heavy, ewy sorts down to \$3.40; western feeders sold at \$3.50@3.65; good to prime western lambs sold at \$4.50@4.75 and feeding lambs, natives or westerns, \$4.00@4.25. A few native yearlings sold at \$3.55@4.00. In the assorted native spring lamb line the range was \$5.00@5.25, late yesterday one lot at \$5.40. Culls and common native sheep, \$2.75@3.75.

Receipts of sheep on Thursday estimated at 14,000 head. Market steady and unchanged.

Hogs.—The receipts of hogs last week were 142,445, as compared with 118,560 the previous week, and 119,438 for the corresponding week in 1896. Up to and including Wednesday of this week, receipts have been 79,128, as compared with 81,994 for same days last week. On Monday prices were 5¢ higher than at the close of Saturday, in some cases 10¢, the medium and heavy showing the most advance. About everything sold at the close. Rough and common, \$3.70@3.80; prime heavy packers and good mixed, \$3.95@4.05; prime mediums and butcher weights, \$4.10@4.20; prime light, \$4.20@4.25. Since Monday, while there has been an active market, values are a shade to 5¢ lower. Wednesday rough and common sold at \$3.70@3.80; heavy packers and good mixed, \$3.90@4.00; prime mediums and butcher weights, \$4.00@4.15; prime light, \$4.15@4.20; a few fancy, \$4.22½@4.25.

Receipts of hogs on Thursday were 25,000. Market active, with most sales at an advance of 10¢. Light sold at \$4.15@4.25; mixed, \$3.95@4.27½; heavy, \$3.80@4.25; rough, \$3.80@3.90.

Work on the farm is a constant war against weeds. The mower is an excellent destroyer of weeds and every piece of land that is covered with them should be mowed before the weeds go to seed. It is the seeds that do the damage and they are often overlooked when the weeds grow in fence corners and locations not reached by the mower; hence a close observation should be made in order to not let a weed escape.

The gypsy moth, which has cost the State of Massachusetts a great many thousands of dollars, is now reported to have made its appearance in several neighboring states. The war against it has been waged for some years, and large yearly appropriations have been made for the prosecution of the work. The last legislature appropriated \$150,000, and this is regarded as altogether too small to carry on the work successfully. The Boston Cultivator thinks the national government should aid in suppressing the pest. Here are its reasons:

"Massachusetts has paid hundreds of thousands of dollars to keep the pest in check, and must pay at least a million more to exterminate it. But now that the gypsy moth has appeared in another State than this, the claim that the national government should appropriate something to aid in its suppression becomes stronger. It is really the concern of all the States, for so long as the gypsy moth exists anywhere on this continent, there can be no way to tell when or where it will make its next appearance."

Exports of cattle from this country this year bid fair to surpass all previous records. The cattle space from United States ports is taken for months ahead and every foot of space is being filled. Thousands of United States cattle are going forward from Montreal for the first time since 1879. Nearly 400,000 head of cattle were shipped from American ports last year, and it would not surprise me a bit, says a Chicago dealer, to find on the 31st of December, when the totals for the year are made up, that the shipments will exceed those of 1896 by 100,000, and that the shipments of beef quarters will be 1,500,000, as compared with 1,150,000 last year.

A Cleveland rolling mill has received an order from Ireland for 20,000 tons of steel rails, to secure which they had to underbid the largest English mills.

It is said that Russia has 57,000,000 hens. They average a yearly output of 4,000,000,000 eggs and beat the French and German layers by about 500,000,000.

The Niagara Falls Route.

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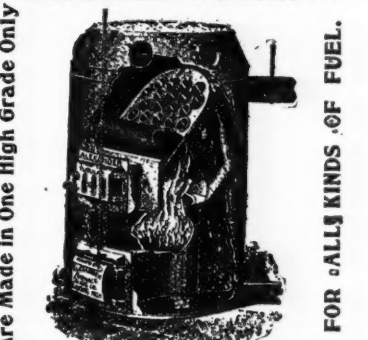
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I have 80 acres of this justly celebrated wheat, and have arranged to thresh this week. Will be ready to fill orders for same by Monday, August 30. The original seed from which I have grown this wheat was furnished by the Agricultural College. The price will be Detroit quotations for No. 1 white wheat the day order is received, plus 25¢ per bushel. Sacks 15¢ each. If you desire any, kindly write or telegraph. This advertisement will not appear again. H. H. HINDS, Stanton, Mich.

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For the Michigan Farmer.

THE GARDEN.

The asparagus pea was put out last spring by one of the large seed companies. It was claimed to have some merits of its own, but was valuable chiefly as a novelty. As to the latter part of the claim the company was correct. It is most decidedly a novelty. The vines do not get very far above the ground, and they do not look very much like peas. The blossoms are red, and show off quite prettily in a row of the bluish green vines. The pods are one and one-half inches or more in length, with four edges, or perhaps they might more appropriately be called ruffles, running the whole length. They do not droop like the pods of peas and beans, but project slightly upward from the stem. All this is more suggestive of the flower garden than of a vegetable for culinary purposes, and the experience of this year leads us to think that is the place for the asparagus pea. The pods are edible, which is fortunate, as otherwise the pea would be little more than useless, since the pods cling too closely to admit of shelling readily. But the pods soon become woody and unfit for use. In flavor the pea has nothing, so far as we are able to judge, that would recommend it. Compared with common garden peas and beans it is inferior in every way, without any merit of its own. Others might think differently. But it is nice to look at, and if one has the time and the ground for it he might very well agree with the introducers in their claim that it is worth growing as a curiosity. Perhaps the experience of others has been more favorable.

Can somebody tell us how to grow egg plants? We do not find them grown in this part of the State. The seed catalogues tell us just how it is done, but somehow there is something wrong in the doing. We have sown the seed with the tomatoes in the hot-bed, and have set out the plants as soon as danger from frost was over. We have watched for the first potato bugs and have kept them picked off, which is considerable of a task since the insect seems to have a grudge against this plant. But all to no purpose. The most we usually obtain is an occasional blossom, and as these are not remarkable for their beauty they are not a very satisfactory return for the outlay of time and bother. Sometimes fruit will form and drop off. Only once in several attempts there was one egg that seemed destined to approach somewhere near maturity. It was on a plant of the New York Improved Early Long Purple variety, or some other name equally imposing. But the frost came along in time to blast the fruit and wither our hopes. We have set them on sandy soils and on clay loam. We have tried them in dry seasons and in wet. The most we have ever obtained has been a fair growth of vines, but that is a poor satisfaction. Will someone who has raised the plants in the latitude of Macomb county tell us what variety will mature and what his method of cultivation is? It is certainly worth considerable of an effort to raise the plant.

Prehistoric corn is one of the novelties which has lately been sent out by one of the foremost seed firms. The story connected with it is that a mound builder down in Arkansas some three thousand years ago was thoughtful enough to put a sample of his corn in some kind of a receptacle and hide it in the ground. This was unearthed some years ago and the seed thus obtained was planted. The kernels resemble sweet corn, and are said to be good for table use in spite of their dark, mummified look. At the present time, the middle of August, the stalks are seven feet high and still growing. Tassels are just beginning to show, and there are some signs of ears. If the frost holds off it may be ready for harvesting by Thanksgiving. It needs altogether too long a season for us.

Peas with edible pods are rather slow in coming into general cultivation. They are very convenient, as so easily prepared for cooking. All that is necessary is to cut them up like string beans, the laborious process of shelling being done away with. It is worth while to have a few of them, though we are not yet ready to let them usurp

the place occupied by the time-tried garden pea. They are not as productive as the latter and the flavor is not equal to it.

As the cabbages mature there is frequently trouble from splitting heads. We are told that this may be prevented by twisting the plant or tipping it so as to loosen the roots, but like much other advice this is only good if taken in time. If the heads have already begun to split it is too late. All the twisting that can be done we have found to be of no use. The head is doomed and may as well be laid aside for immediate use, as it will not keep. But if taken in time, while the heads are still firm and before they have begun to crack, a little loosening of the roots will be found effectual.

If a person is curious to find out how many of the long black squash bugs there are around his vines let him place one or two small boards beside each hill when those insects first begin to show themselves. If he turns over these boards in the morning he will find more beetles than he supposed were near his garden. The insects may be easily crushed, as they make little effort to escape, and the trap set again. The boards should be placed with the end on a clod or stick so as to raise it a little above the ground, enough to give room for the bug to crawl under. A cleat half an inch thick tacked across the end will do very well. The bug retires early in the evening and remains till late the next morning before beginning its destructive operations. By means of this simple device we were enabled to kill scores of the pests around only four hills of summer squashes in the garden this season. While the vines are small many of the clusters of eggs may be found if one has the time to look over the leaves, but this is too much of a task when the vines get very large or there are many hills, although a little time each day may be well spent in this way.

F. D. W.

THAYER'S BERRY BULLETIN FOR AUGUST AND SEPTEMBER.

The bearing season being over, the delight of unfolding leaf, bud and blossom past, the fruit matured, and the appetite satisfied, we are apt to neglect the very means of future success.

Remember two seasons of good work are necessary to produce best crops of berries. The babyhood of the plant requires careful nursing in the spring. The childhood of the plant careful training and protection in the fall and the mature or exhausted plant care at all times. The berry plant gives you fruit but once. All the energy, and even life itself, are offered up in its wonderful effort to produce fruit and seed. It then dies, and should be removed and burned. Nature, knowing the sacrifice, provides a new growth from the roots and repeats its efforts again and again. The neglect of a plant at any stage of growth, carries the result through life just as surely as with a child or other animal growth.

After fruiting, the roots of plants should be nursed back into vigorous life, by cutting out all old and surplus growth, cultivate thoroughly and give a good dressing of fine manure or wood ashes. This best prepares them for resisting the cold winters of the north, and stimulates them for active work in the early springs of the south.

It is sometimes desirable to propagate your own plants. If so, select strong new growths of currants and grapes, as soon as the leaves fall, cut in pieces about eight inches long, each piece containing three buds. Set in long, straight rows, eight or ten inches apart, leaving top bud near the surface of the ground. Cultivate and keep free from weeds. Good one year plants are thus made the following season.

For black raspberries, bury the tips of the cane as soon as it naturally bends to the ground, leave until spring, when it is ready to detach and transplant.

Plants from the blackberry and red raspberry are usually taken from the sprouts or suckers that come up between the rows or around the hill, considerable care being necessary in digging the plants.

Root cuttings make best plants. Select strong roots in spring or fall cut in pieces about five inches long and sow in drills about three feet apart.

The gooseberry being more difficult to propagate, should be mounded up, covering the hill except the tips of the branches. The following year many

fine roots are found along the branches, these branches are removed, made into cuttings and set out the same as currants. There is no more fascinating work than the propagation of plants.

HIS METHOD OF RAISING CUCUMBERS.

M. A. Thompson, of Virginia, in a letter to Vick's Magazine, details his method of raising cucumbers, a subject in which many of our readers are interested. They may get some hints from what Mr. Thompson says:

My plan is to mark our rows five feet apart, then take a plow and throw open a wide furrow by plowing up and down; then put in the manure, and I prefer well rotted cow or horse manure, put in a good, thick layer, then plow around twice, leaving the land in ridges; then roll and work the land very fine, just as fine as I can get it. Then I mark out the rows with a hoe, or still better, the Planet Jr. hand plow, about two or three inches deep. I sow the seed with a Planet Jr. drill, and have the opening sufficiently large to use about three pounds of seed per acre; I like plenty, because the bugs are so destructive. I usually sow tobacco dust along the rows at the rate of 500 pounds per acre; just as soon as the plants are up, and the bugs begin to work, I put on tobacco dust, the more the better; air slacked lime and a little kerosene is also excellent—just enough oil to get the odor. The tobacco dust keeps off all insects, and being full of potash is one of the best fertilizers for cucumbers; they need plenty of potash.

I am no admirer of cucumbers in hills. I like my plants to stand about a foot apart in the row; I think it much better, particularly in a dry season. I use this plan any time of the year, but for early crop I prefer to sow in the fall a row of rye every ten feet; this is one of the best protections from the cold and winds that oftentimes are very destructive in the spring. As soon as the rye is ripe, I cut it. I sow two rows two and one-half feet from the side of each intended row of cucumbers; this leaves each row five feet apart. I keep the ground well worked up to the plants with a double-winged shovel plow, or any other. Cucumbers need very rich land, with an abundance of potash.

THE COLUMBIAN RASPBERRY.

About a year ago we gave a description of this new berry, and at the close of this season we give the experience of a New York grower with it as detailed in Vick's Magazine for August:

Our Columbian raspberries are now fruiting fully for the first time, and to say that we are pleased with them is stating the case very mildly. Last season the little bushes bore a few scattering berries, enough to show us the quality of the fruit, and last winter demonstrated the hardness of the bushes; this season shows us the great size of the berries and the productiveness of the plants. I never saw so many berries on the new canes of any berries as we find on these, most of the fruit set on the new growth being later than the other. These raspberries very much resemble Shaffer's Colossal in color, size of fruit and manner of growth, as they do not sucker from the root, but are rooted from the tips of the branches. The quality of the Columbian is far superior to that of the Shaffer, being much sweeter and has smaller seeds, which is a decided advantage. While the Shaffer winter-kills badly with us, the Columbian has shown no disposition to do so, though the mercury often reaches 30 degrees below zero.

Its origin is not positively known, farther than that it is a seedling of Cuthbert, a fine red variety; it is supposed to be crossed with Gregg, a large black sort, or with Shaffer, above alluded to. The result of the cross is a beautiful berry of a purple or plum color, neither so hard and seedy as a black raspberry nor so soft and easily crushed as the red ones.

It is admirably adapted for market purposes, fine for table use and the best known raspberry for canning. The bushes grow to immense size, and if given slight support when young will reach the height of from ten to sixteen feet; the canes are correspondingly thick and strong and do not break easily with the wind or in picking the fruit.

Some of the fruit matures very late, the bushes being inclined to bear for

several weeks instead of ripening up at once.

At this writing when the regular crop of fruit is at its best, there are many clusters of berries just settling which will furnish a succession for some time.

BEES AND GRAPES.

Prof. J. Troop, of the Indiana Experiment Station, has been experimenting with bees and grapes to settle the question as to whether the former really attack ripe grapes. The professor says:

There is a great difference of opinion among well-informed fruitgrowers as to whether the honey bee actually destroys ripe grapes without any assistance. In order to secure reliable data on this question, some careful observations were made during the past season. A Worden grapevine was selected, and when the fruit was ripe all defective berries and surplus leaves were removed, so as to allow the bees free movement and give them every facility for work. A colony of Italian bees was then placed close to the vine, and both vine and hive enclosed with mosquito netting, giving the bees about 300 cubic feet of space in which to work. At first they did not take kindly to the confinement, but after the first few days did not seem to mind it. They were kept confined with the grapes just three weeks, and during this time they were not allowed to get any other food except what they already had in the hive. At the end of the three weeks they were removed and the grapes carefully examined, but it could not be discovered that a single grape had been injured. The natural inference is, that if the bees could not be induced to eat the grapes when kept in close confinement with them, they are not likely to do them much injury when at liberty to seek the food they like best.

It is well known that certain wasps will cut the skin of grapes, and I have always held to the opinion that the wasp was the culprit which opens the door for the bees to enter. This opinion has been confirmed the past season, when two species of the genus *Polistes*, or social wasps, were seen to light on the grapes and with their sharp jaws tear open the skin and suck the juice, after which the honey bees would usually finish the work. In fact, it would be a very stupid bee that would not avail itself of such an opportunity.

BURNING OVER OLD BEDS.

In years past, says J. H. Hale, in the Strawberry Culturist, I had a considerable experience in burning over old beds, but it has nearly always been within two or three weeks after the fruiting season, when I have a mowing machine go over and cut down berry plants, weeds, grass and everything quite close to the ground and then in a few days after all were thoroughly dried and there was a good fair wind blowing I have started fires on the windward side and burned the field over rapidly; this killed all fungus diseases, insects, weed seeds, etc., and injures but few of the strawberry plants, occasionally where the roughage is a little heavy it may make too hot a fire and hurt a few crowns. If this burning over can be done just before a rain storm I have found the plants start new leaves very rapidly. I have some times after the burning run a smoothing harrow over the entire field to loosen up the ground a little; this tears out a few plants, but does no harm to matted beds; it is sometimes advisable after the harrowing to run a cultivator over between the rows and loosen up the ground, which helps to stimulate a new growth more rapidly. What effect mowing off the tops and burning the field later in the season would have I am not sure, but the fruit crowns will be forming late in August and early in September, and I would not think that burning over at this season would be safe or advisable. I am rather of the opinion now that as far south as Norfolk, where fruitage was ended in May, that it would be better to defer burning until very early next spring, sometime in late February, or early March, when the ground was dry enough, a quick fire over the field might do some good. Some years ago I had an accidental fire get into an old strawberry field early in spring and burnt off the tops and a lot of old hay mulch and where this burning over was the fruit was earlier and better than where left undisturbed; still one accidental success of this kind would not be a guarantee that like results would follow every burning.

HORTICULTURAL NOTES.

Delaware has a law providing for the extermination of the San Jose scale.

Louisiana was prompt in taking advantage of the passage of the Dingley tariff bill, which places a duty of \$1.50 per bbl. on oranges. Over 100,000 budded orange trees have already been set in Plaquemine parish.

The city of Albany, N. Y., has appropriated \$1,000 for the extermination of the elm leaf beetle, one-half the money to be used in the purchase of a steam sprayer and the balance in doing the work. Many elms have already been killed by the larva of this beetle, which much resembles the common fall caterpillar, but so far as known, feeds only on the leaf of the elm.

It is said that the finer class of pears are much more profitable when each fruit is wrapped separately in paper than when packed, as fruit is generally packed, in barrels. Just how this causes a better preservation of their flavor is not known, except on the general principle that pears ripened in the dark are always better in flavor than those exposed to the light; and the paper probably adds to the exclusion of the light.—Meehan's Monthly.

In a paper on commercial peach culture, Wm. Taylor, assistant pomologist, Department of Agriculture, in speaking of thinning of peaches, says: "Much of the fruit thinning necessary can be done with the pruning knife, but some will need to be done by hand. No fixed distance apart on the twig can be named, but in general not more than three or four specimens should remain on the growth of the single terminal branch, and but rarely more than three or four specimens should remain on the weaker twigs. It should not begin until the 'June drop' is ended. Over bearing must be prevented or the orchard is doomed to speedy decay."

It is estimated by the National Apple Shippers' Association that the yield for the crop of 1897, based on an average of 100 as a full crop will be as follows: Canada, 40 per cent; New England states, 20; New York state, 25; Pennsylvania, 50; Maryland, 60; Virginia, 70; West Virginia, 30; Kentucky, 60; Ohio, 30; Indiana, 65; Michigan, 30; Illinois, 90; Iowa, 75; Missouri, 80; Kansas, 75; Arkansas, 90; Tennessee, 70; Colorado, 100; California, 100; Oregon, 100. The estimate shows a considerable falling off in the East, while the West, particularly Illinois, Iowa, Missouri and Kansas, shows a decided increase, both as to percentage of crop and a largely increased acreage in bearing. The 1897 crop will be considerably below that of last year, but about equal to the average crop of the United States.

The Poultry Yard.

QUERIES AND ANSWERS.

C. B. Taylor, of St. Joseph County, writes as follows: "I wish you could advise me as to the difficulty with my poultry, and a cure for same. They become dumpy and refuse to eat from two to three days before death ensues. The passages are of a watery nature and a yellow color. A post-mortem reveals an extra large liver, at least double size, and entrails white and entirely empty."

Your fowls have a very bad attack of diarrhoea, almost cholera, and should be treated at once or you will lose them all. First give five drops of camphor on a bolus of meal. Be sure that they get it. Then give them a pill made after the following formula: Five grains of powdered chalk, five grains of rhubarb, and one-half grain of opium; the pills to be the size of a small pea. This will cure them if they are attended to at once. You should be careful and clean up your grounds and house, and sprinkle it with kerosene oil; also soak a feed of corn in the oil and feed them; if they will not eat it give them a teaspoonful once a day for three days. Do not allow them to ten drops of camphor to a pint in it. Shut up the sick birds so you can treat them without the worry of catching them while running at large.

One correspondent says she has used all the sure cures there are but their fowls die. Perhaps they are not careful enough to see that every sick bird gets its share of the medicine. This, of course, would not cure them. One must treat every bird that is sick

or we do not know whether it gets anything or not.

We have had a very bad season for our birds. First it was cold and wet, then hot and dry one day, then hot and wet the next day, and when the weather is so very warm, 106 degrees, which was the case with us for over a week at a time, the birds must have great care or they will suffer from heat and lack of fresh water. Most farmers do not think that their fowls suffer from a lack of these necessary things, and after a while they find their birds in the same condition as our correspondents', and do not know what to do for them. There should always be shade for the birds at all times, and they should have fresh water several times a day to insure good health. Our correspondent says the old hens suffer more than the young ones. This is because they are reduced in flesh from the long season of laying, and of course take the disease sooner than young chicks.

Cahoon Co.

C. L. HOGUE.

For the Michigan Farmer.

POULTRY NOTES.

There has been so many different ways experimented upon in raising poultry this summer that any person who has been interested in the work with an eye for observation should know the why and wherefore of each method.

Several farmers in this locality bought incubators last spring and have been experimenting with them. For some reason unknown to them they have been far from realizing such grand success as they thought awaited them. Whether the hot season has had anything to do with destroying the fertility of the eggs or not I do not know. Extreme hot weather, so some say, has a tendency to start the life in an egg and when it is gathered and placed in a cold place for good keeping the life germ in the egg which has started to develop dies. This being true would be one reason for so many failures among poultry raisers as have occurred this summer.

One thing that cannot be overlooked in the poultry business is that when a hen steals her nest and lays from 15 to 20 eggs, or at least has that many in her nest, no matter whether she lays them herself or has help from her neighbors makes no difference, she invariably hatches a larger per cent of eggs than by any other known process.

There is a considerable difference of opinion as to the merits or demerits of raising young chickens for the early market. Where this is done most successfully persons are experts at the business and have everything that is required in the special line to make it a success. Such persons are making money at the work for they have a life long experience and not only know how to develop an egg into a marketable chicken at an early age but know how and when to dispose of them at a profit.

Where one is raising a large number for early sale it has to be done upon the incubator basis. This requires large rooms with convenient heating apparatus and good ventilation and many other necessary expensive things which the majority of farmers have not and do not care to invest money in. One person who paid \$75 for an outfit has never been able to get a chicken to live more than four weeks. His idea is to raise them in the winter and sell in the spring. Perhaps he would be more successful in summer hatching when the little chicks would have free access to the ground.

This, however, has not made much if any difference with many other poultrymen who have been trying the new work. There are only about three months in the year when the average farmer can accomplish anything with an incubator. This period of time varies according to the earliness or lateness of the season. Taking one year with another, April, May and June can be calculated upon as being the most favorable time for successful incubator hatching. In fact in the old way where the hen is her own boss from start to finish, she does her best work during the above mentioned time. Chickens hatched in April and May will lay well in the winter if they have a warm house and careful feeder. Old hens begin to start up in their laying about the first of August and this is a good month to dispose of what surplus stock one may have on hand. Buyers pay from 1½ to two cents per pound more at this time of year than

later and are not one-half as particular as to what they are buying. Neglecting to sell off the old stock at the proper time means a loss in two directions. The old ones running with the young ones push them aside and consume the food that is intended for the younger ones. This food should be wheat, for corn is too fattening for the best development of any kind of fowls. Old stock thrives better on corn than wheat. By disposing of old ones before confining the new ones to the hen house one can cleanse it and by burning sulphur disinfect it.

This is another thing that is never overlooked by the practical poultry raiser. Diseases that have been lurking around the poultry yard are caused in the first place (or 75 per cent of them at least) by lice. After the old ones are delivered or if one does not sell out entirely you can shut the doors to the roost and compel them to seek another roosting place for a few nights; the first thing to do is to thoroughly clean the house, burn sulphur and after two or three days burn sulphur again. Before allowing the poultry to return mix a pail of coal oil with water, take a spray pump and apply, having one person stir the mixture continually so as to keep the two from separating. Now, if you have not been overly successful this year, study to see where you have failed and try again.

ELIAS F. BROWN.

POULTRY IN ORCHARDS.

Mr. Tegetmeier, the famous English authority on poultry, in commenting on a report of the Rhode Island experiment station regarding the value of fowls to orchards, says: "For many years I have advocated the introduction of poultry into apple orchards, maintaining that they do good service, in two very distinct modes—first, by manuring the ground, and, secondly, by the destruction of insects and grubs that hibernate in the soil."

The apple maggot appears to be extending in America, attacking the favorite Baldwin, which is so well known as being imported largely into this country, and rendering it entirely unfit for use, but the spraying of trees with Bordeaux mixture and Paris green has appeared to prevent all serious attacks of this insect. In the mature state this insect is a fly, which deposits its eggs in the pulp of the apple beneath the skin. The young maggots grow within the fruit, which they render worthless, and when mature emerge from the apple and go into the ground, lying in the pupa state beneath the surface soil among the grass roots. Samples of the earth, six inches square, were taken, and the number of maggots under the trees varied, according to the size, from 1,600 to more than 12,000 under each tree; the pupae somewhat resembling kernels of wheat. Now comes the point which was particularly interesting to me. The experiment was tried as to whether poultry, if confined to a small range and encouraged to scratch, would destroy these pupae. A large, movable wire fence was placed about a tree, whose fruit had been destroyed by insects. One side of the fence was raised and fifty hens called into the enclosure. The fence was then let down and they were confined to the space around the tree. As soon as they had eaten the corn they naturally began to scratch for pupae, and in the course of three or four days it was found that the latter had disappeared. As these insects remain in the pupae state from the fall of the apple to the following spring, when they appear, it may be expected that next year the number of flies breeding from the apple maggot will be greatly diminished in the localities where this plan is followed.

From personal experience, extending over many years, I can speak positively of the advantages of allowing fowls and chickens a free range in apple orchards. They not only manure the soil and destroy all insects harboring in it, but they find, for some weeks, a considerable proportion of their own food—the windfalls, which they devour greedily, with any grubs they may contain.

A writer in a poultry journal says that "spade up the yards" should be a sign on every poultry fence. In no other manner can disease be better prevented than by occasionally spading or plowing the yards, and at no season is such work more important than in summer. Before so doing, scatter lime freely on the surface, and then scatter it again over the ground after spading. Lime prevents roup, gapes and cholera.

Here are a turkey raiser's suggestions as to how the young turks should be fed: The first two or three weeks they should be fed often, but do not shut them up. If the hen is wandering about with them, three times a day will do, but feed as often as possible, even four or five times a day. The oftener they are fed the less they will wander. Give them stale bread soaked in milk and squeezed dry, mixed with curds, hard boiled egg or meat chopped fine. Curd is one of the best of foods for all young fowls, and they should have plenty of milk to drink. In a few days a little corn meal can be stirred in with the rest of the food, but they must have the hard boiled eggs, and if possible a little meat, too, for some time. Corn bread is excellent. After a time wheat and shelled corn can be mixed with the other food until they get so they will eat the wheat and corn clear.

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Consul Parker, at Birmingham, England, has furnished the department of state with a copy of a report made to the British ambassador, Sir Julian Pauncefote, by Hugh J. O'Beirne, his second secretary, containing a review of the growth of the tin plate industry in the United States. It shows that the tin plate sales from England have fallen off one-half since the McKinley tariff act was passed, and that the American production is steadily increasing. It is claimed by Mr. O'Beirne that the slight increase of rates in the present tariff law over those in the Wilson law will give the United States manufacturers the California markets, which were heretofore supplied from England. Inclosed with Mr. Parker's report is an editorial from the Daily Birmingham Post commenting on the report, and reviewing the tin plate trade since the McKinley law of 1890. It is claimed that the only market England can now obtain in the United States is by the drawbacks which the canners of export goods receive.

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